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**A50 Phase 1B
Foley Road to Normacot
Longton, Stoke-on-Trent**

Archaeology Interim Report 1

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(On secondment to the A50 project)**

January 1995

Report No 38

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1. Introduction: Background to the Archaeological Involvement in the A50, Longton.

The construction of a new A50 Trunk road through Stoke-on-Trent marks a major improvement to the road network of the city and will provide much better access to the area. The new route, linking Queensway (A500) with the existing A50 at Blythe Bridge, will ultimately span 7 kms (4.4 miles) of the southern part of the city.

Phase 1B of the contract runs the 1.5 miles from Foley Road in Longton to Normacot, comprising a dual two-lane carriageway, 3 two-level junctions and 9 bridges. This phase of the road passes close to the town centre of Longton, one of the six towns of 'The Potteries' and an area of extensive industrial activity since the 18th century.

It was realised at the planning stage of the development of the road that archaeological involvement was necessary due to the close proximity of the major earthworks to the centre of Longton. Buried features and deposits would be put at risk by the deep cuttings and earthmoving integral to the project if the process was not monitored. Despite the threat to potentially vulnerable archaeology, the construction of the road could be used to the city archaeologists' advantage. The earthmoving provided a unique opportunity to understand the nature and extent of buried features in the urban environment and the archaeologists would be able to see a section through the town that under normal circumstances would be impossible to envisage.

There has been no large-scale archaeological involvement in the area of Longton to date and information on the nature of the town's past has generally been gained through documentary evidence and chance finds from workmen's trenches. Despite the wealth of written evidence on the town from the 19th century onwards, information is scarce for the 17th and 18th centuries, when the town's economic and industrial structure was taking shape. It was therefore felt to be very important that the city's Archaeology Unit became involved in the road building project, to help shed light on the development of the town in the past and to research the pottery industry of the post-medieval and industrial periods.

The Archaeology Unit's involvement came about as the result of a liaison between the City of Stoke-on-Trent and the Department of Transport. The archaeological input in the project was to take the form of an intensive watching brief for the duration of the bulk earthmoving, with an archaeologist being employed full-time to monitor the work.

The aims of the project are to record the presence, nature and extent of buried archaeological deposits along the route of the new A50 and to, therefore, preserve the archaeological evidence through a detailed archive of finds, drawings, written data and photographs.

The transfer of ownership of the finds is being dealt with by David Barker, Keeper of Archaeology at the City Museum, in liaison with the Department of Transport. Ideally the finds excavated during the project should be housed in perpetuity in a public museum in order that they may be properly cared for, studied and made available to researchers. For this area, the appropriate museum is the City Museum and Art Gallery, Stoke-on-Trent, which has specialist curatorial staff to deal with this type of material.

The involvement of an archaeologist in the road building project has met with mixed reactions from the public and from the men and women working on the site. These reactions have ranged from regarding the archaeologist's employment as "a waste of tax payers money" to considering the input as a good idea. Many people did not realise that archaeological work is carried out in industrial towns such as Stoke-on-Trent and presumed the profession to be only undertaken in the Near East or on Prehistoric or Roman sites.

The archaeological involvement has provoked coverage by local newspapers on a few occasions, as well as interviews on BBC Radio Stoke. (See Appendix One) This interest in the archaeologist's work has helped to promote the study of Longton's past and assisted the people of the City in understanding the nature of archaeological research in a modern industrial centre.

2. Archaeological and Historical Background

Prehistoric:

No sites or finds of prehistoric date have been identified within the area of the new A50 route. However, two prehistoric artifacts are listed on the City's Sites and Monuments Records (SMR) as having been recovered in the Longton area:

PRN 00561

Bronze Age stone axe fragment.

NGR SJ 9236 4242

PRN 00562

Bronze Age collared urn.

NGR SJ 9235 4238

Both of these items were unearthed in a sand pit in Normacot, to the south-east of the eastern end of phase 1B.

Roman:

A **Roman road** from Derby (Little Chester) to Stoke-on-Trent passes through Blythe Bridge and Longton along the present Uttoxeter Road (A50). (Margary 1957, 41-3) The road, listed on the SMR as **PRN 01227**, cannot be traced beyond Stoke due to later development, yet it is probably heading towards Chesterton which is 3.5 miles away to the west.

Fieldwork in the Newcastle-under-Lyme area in the 1960's is thought to have traced the route of the Roman road from Stoke towards Chesterton or Holditch. Sections were cut through what was thought to be the Roman road at various points along its route, at the site of Wolstanton High School and Wolstanton Golf Course. The excavations unearthed a sandstone road and a number of finds including a Carnelian ring seal and fragments of Roman pottery and glass. (Goodyear and Charlton 1967, 27-33)

At Longton the road is thought to follow the Uttoxeter Road as far as Meir then passes the town centre north of the present A50 near Sutherland Road.

Traces of an old road surface of pebbles were found during excavations at the foot of the Campbell statue in Stoke which may be part of the Roman road. (Margary 1957, 43)

Also listed on the SMR:

PRN 00563

Lower stone of a rotary quern of millstone grit. May be post-Roman.
NGR SJ 923 423

PRN 02191

Roman coin. An Antoninanus, probably of Galerius Maximus, but possibly a Valerian.
NGR SJ 925 425

Medieval:

PRN 03912 lists early medieval place-name evidence for Longton, with the name meaning 'Long Settlement'. (Gelling 1981, 2)

Longton is not mentioned in the Domesday book, yet by the 13th century it is mentioned in documentary sources as 'Langeton', and then in the 14th century as 'Longeton'. (Duigan 1902, 97) Although there was no settlement at the time of the Norman Conquest, one had developed during the subsequent 200 years.

The first documentary reference to Longton is in the early 13th century when Ranulph de Bevill granted the Longton stream and its adjoining bank to Trentham Priory. (Briggs 1983, 5) By the mid-13th century the area included open arable fields and a water mill. References to assarting suggest the expansion of arable cultivation, probably at the expense of woodland. (Pugh 1963, 237) Much of the land belonged to Trentham Priory, being used for sheep farming, with Longton probably being a small hamlet near the manor house to the south west of the present town centre. (Palliser 1976, 227)

PRN 02519

To the east of Longton town centre at Normacot, NGR SJ 9220 4250, a settlement is mentioned in 1086 as having one plough in lordship, although the Domesday Book records no occupants.

PRN 00560

A moated site by a small stream is thought to have existed in Dresden, but there is now no trace of the site. NGR SJ 9027 4257.

The Hearth Tax records for 1666 show Longton to have 13 taxable houses with Meare Lane End having 12. These numbers suggest a population of around 150 people in these two areas, which is a smaller population than the other pottery towns at this time. The community was at this stage underdeveloped and had yet to take-off economically. (Briggs 1983, 4-5)

Plot's map 1686. (Figure 2)

Longton and Meare Land End are separate villages along the brooks from the River Trent.

The land remained basically agricultural until the 18th century, firstly under Trentham Priory, then the Priory's secular successors the Leveson-Gower family, who acquired the Dukedom of Sutherland in 1833. (Briggs 1983, 5) Industrial activities had developed in the area by the end of the 17th century with a number of mines supplying cheap coal to the area. (Pugh 1963, 243)

Post-Medieval:

Eighteenth Century:

There may have been a manor-house at Longton in the Medieval period, but there was certainly one by the early 17th century. (Pugh 1963, 229) The Longton Hall porcelain factory occupied the site between about 1750 and 1760, the first porcelain works in Staffordshire. (PRN 065) The supply of cheap coal from the many coal shafts in the area is one of the reasons for the location of the pottery. (Pugh 1963, 243) Records of mining in the area go back to 1695, yet the activity had probably been taking place for many years. (Briggs 1983, 6) The later potworks in the town also specialised in porcelain and bone china rather than earthenware, taking the lead for this development from the earlier factory at the Hall. (Palliser 1976, 227)

Until the 18th century the area of land that is now the town of Longton consisted of two small villages - Longton, a hamlet near the Hall, and Meir Lane End, a hamlet that had developed at the point where the roads to Uttoxeter and Stone forked. With the development of the pottery industry in the town, and other industrial activities such as coal mining and brick making, the two hamlets expanded to form the small market-town of Longton.

In 1738 the population is described as consisting of "little more than 500 living human souls." (Briggs 1983, 4) Within 100 years the population of the town expanded rapidly, with Longton being the home of over 4,000 people by the end of the 18th century. (Palliser 1976, 228)

Excavations on the site of the Foley Pottery revealed ceramic kiln waste from c.1760 - 1775, indicating pottery production on the site in the latter half of the 18th century. **PRN 04068**, NGR SJ 9057 4388.

Yates' map 1775. (Figure 3)

The former Roman road (Uttoxeter Road) is still in use as the main thoroughfare to Stoke and a small settlement has developed along its length called Lane End. Longton is a separate settlement at this time just to the south. A few roads have developed to the south of Uttoxeter Road such as Lightwood Road, Trentham Road and Meir Road, yet the town street plan has yet to develop.

The road to Stone dates from the 13th century, with the route having been turnpiked in the mid 18th century. This helped make the area a good communication centre and an attractive place for new industry to develop. (Briggs 1983, 6)

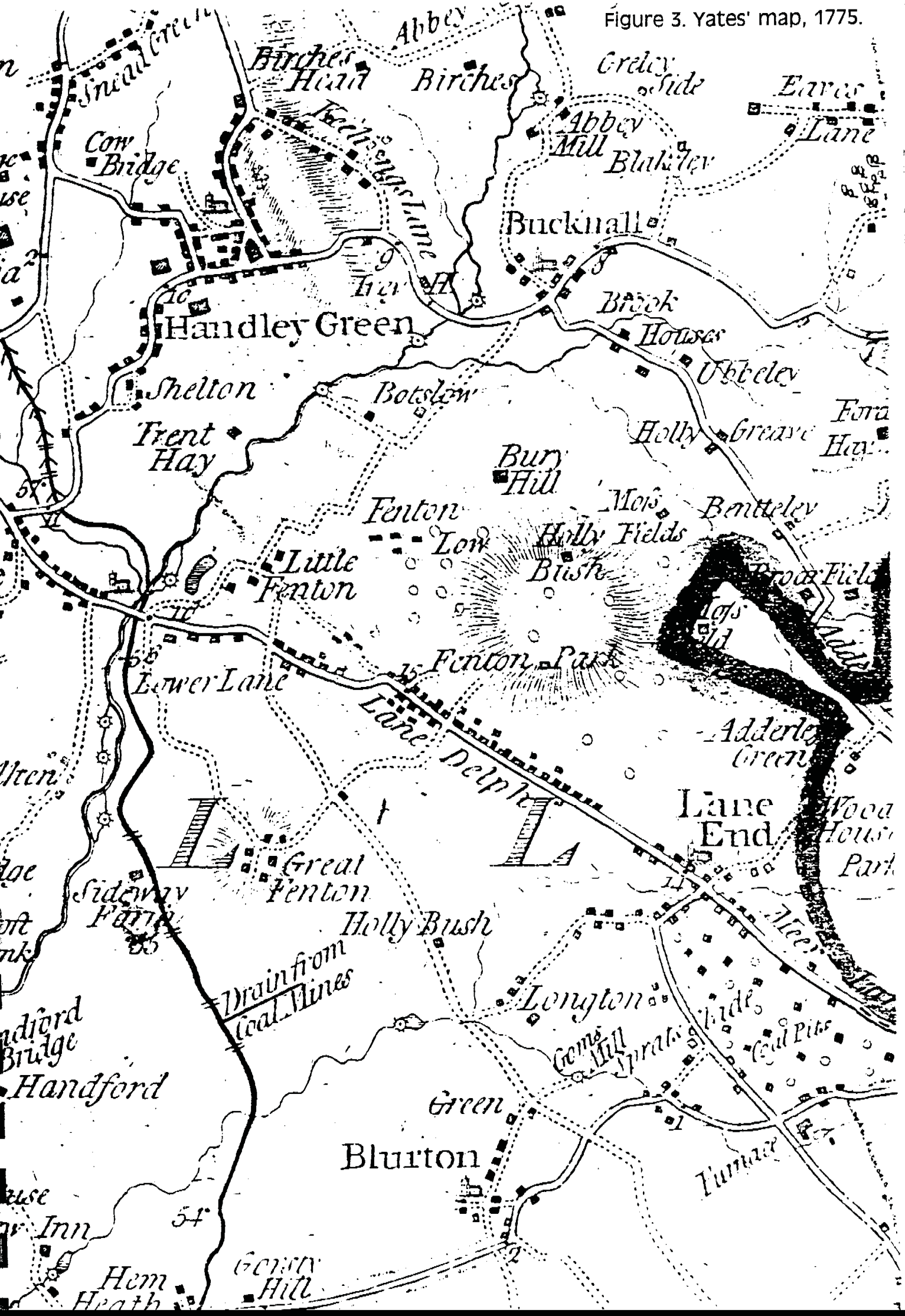
The map shows many coal pits in the land between Uttoxeter Road, Lightwood Road and Meir Road, with a few scattered buildings in the same area.

A furnace is shown on the map at the Meir Road - Lightwood Road crossroads. This is **PRN 04386**, the site of an important iron furnace owned and run by the Foley family in the 16th, 17th and 18th centuries. By the end of the 16th century the furnace was producing a large proportion of Britain's pig iron. (Baker 1991, 3) NGR SJ 9197 4230. (The site has now been destroyed).

A water mill called Gom's Mill is located to the south west of Longton, **PRN 03711**. NGR SJ 9050 4260. Another water mill is situated near here, dated to pre-1799, **PRN 5086**.

W.A. Tunnicliff's Staffordshire survey of 1781, lists 12 pottery manufacturers operating in Lane End, including Joseph Cycles "Manufacturer of Egyptian black and pottery in general" and Turner & Abbott "Potters to the Prince of Wales." (Briggs 1983, 26) More potworks were able to develop in Longton at this time as there was land available from the sale of land from the Longton Manor estate in the 1780's. Many of the pottery towns were short on space for development so these newly available areas in prime positions were soon bought up. (Briggs 1983, 24)

Figure 3. Yates' map, 1775.



Nineteenth Century:

The town continued to expand in the first half of the 19th century and became the centre of the bone china industry. Lane End in the early 19th century was noted for "the great irregularity in the position of its buildings of every size and sort from the respectable residence to the mud and saggar novel of the pauper scattered over a wide extent of territory." (Pugh 1963, 226)

J. Allbut and Sons map 1802. (Figure 4)

This map shows the locations of eathernware manufactories throughout the area of The Potteries. The potworks in Longton are centred around the intersection of the roads to Fenton, Uttoxeter and Stone, with a number of factories to the south of Uttoxeter Road, near the route of the new A50.

Hampson's study of Longton potters has identified 27 potworks from the centre of Longton operating in 1802. (Hampson 1990, 178) The potworks are mainly located along Uttoxeter Road, The Strand and Sutherland Road, and demonstrates the rapid rise in pottery manufacture in the town within the last few years of the 18th century.

Excavations in front of the Gladstone Pottery Museum revealed a waste tip of biscuit and faced creamwares dated to the late 18th and early 19th century. **PRN 04395**, NGR SJ 9125 4330. Early 19th century factory waste was excavated at the Duchess China Works on the north side of Uttoxeter Road. Most of the pottery dated from between 1815 and 1830, although a number of biscuit wasters from one layer implied production during the last quarter of the 18th century. **PRN 04070**, NGR SJ 915 433. (Kelly 1975, 2)

Hargreaves' map 1832. (Figure 5)

The main roads through the town are present on the map, such as Uttoxeter Road (previously High Street), The Strand, Commerce Street, Gold Street, Lightwood Road and Normacot Road. Potworks and houses are present along these routes, but the settlement is still scattered in the areas away from the immediate centre of the town.

The railway line through Longton has been built and a secondary line from the main line is shown passing south through what is now Corwell Road and Cooke Street. The line ends at Green Dock, near Edensor Road.

The settlement is mainly a linear development along Uttoxeter Road, with there being many areas of open land to the south east of the A50 route. The area of land south of Normacot Road is mainly open ground, with few buildings shown on the map. There are collieries shown to the west of the town, to the south west of Greendock Street (previously New Street).

Figure 4. Allbut's map, 1802

A
MAP
 of the
POTTERIES
 STAFFORDSHIRE.

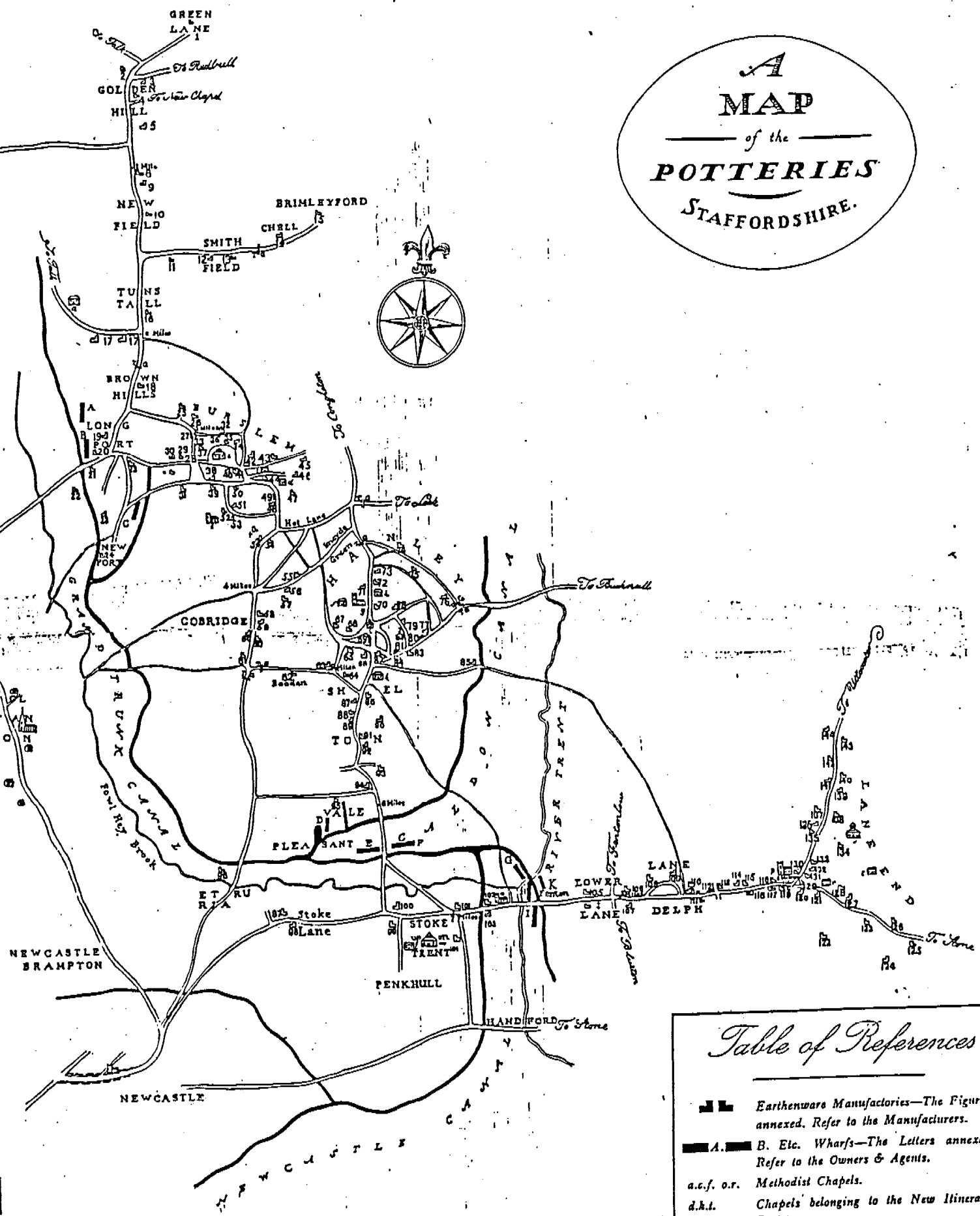




Table of References

	Earthenware Manufactories—The Figure annexed. Refer to the Manufacturers.
	B. Etc. Wharfs—The Letters annexed. Refer to the Owners & Agents.
a.c.f. o.r.	Methodist Chapels.
d.h.t.	Chapels belonging to the New Itinerant Society.
a.g.n.p.	Churches.

Scale 1/4 Inch = 1 Mile.

Figure 5(a). Hargreave's map, 1832.

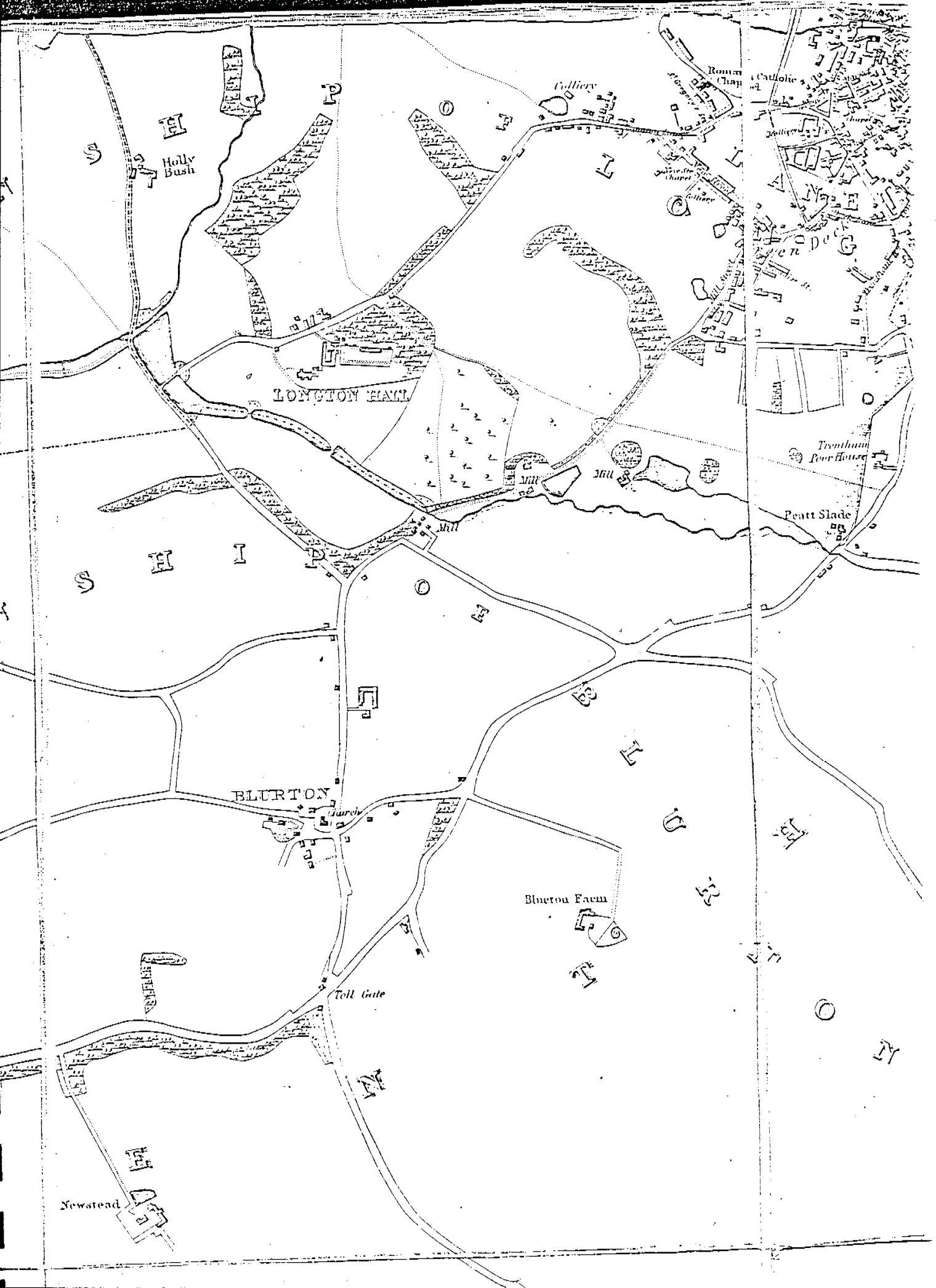
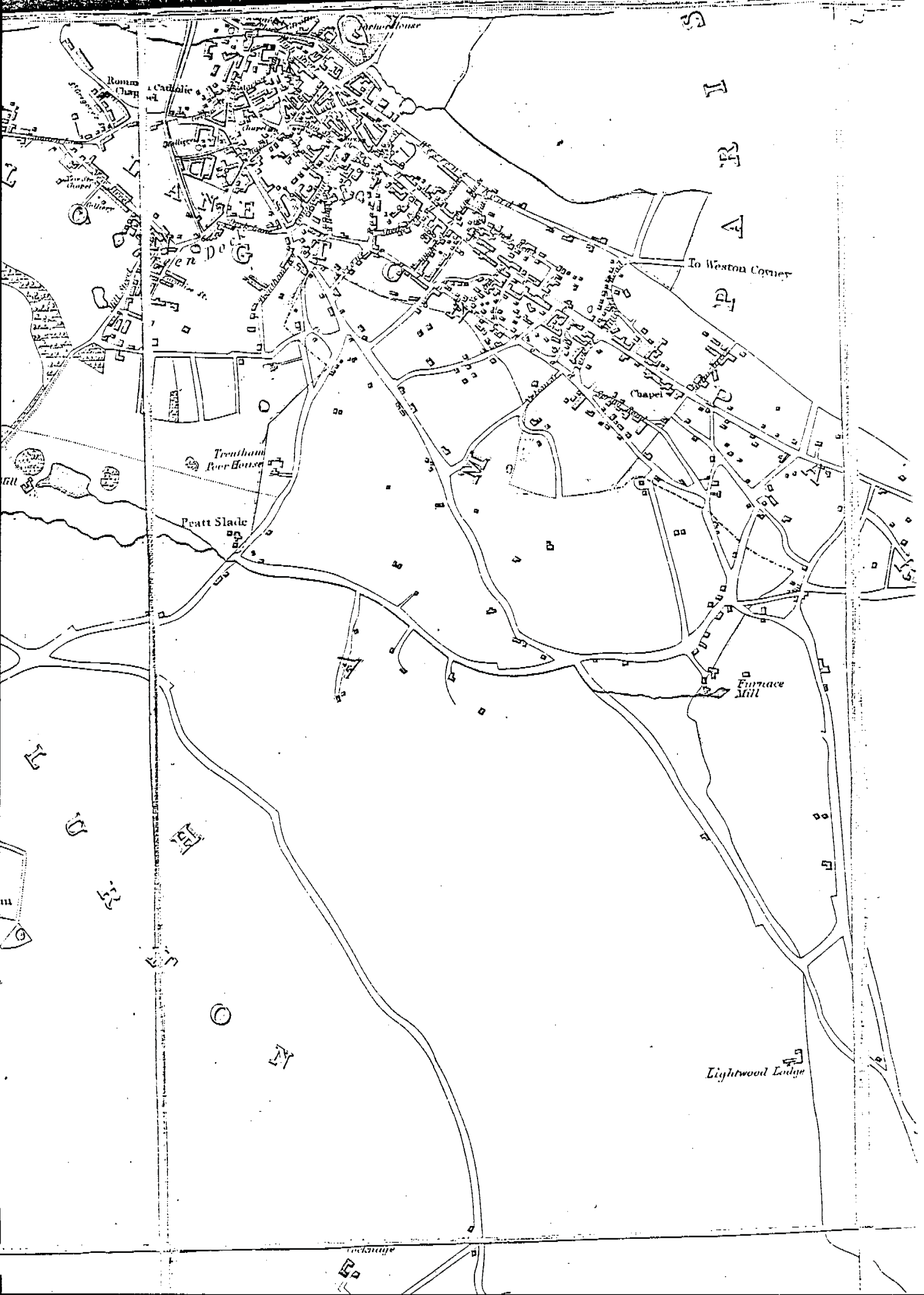


Figure 5(b). Hargreave's map, 1832.



The church of St. James on Uttoxeter Road was built in 1833-4 and became the parish church for the town in 1839. The large size of the church reflects the growing population of the town, as do the large number of Nonconformist chapels in the district. (Palliser 1976, 228)

The North Staffordshire Railway's line from Stoke to Uttoxeter, with a station at Longton, was opened in 1848. (Pugh 1963, 228) The present bridge across Times Square was completed on 23rd June 1889, **PRN 03283**.

Rawlinson's map 1850. (Figure 6)

By this date the town plan of Longton is fairly well established. The map is not detailed enough to show individual potworks but Lane End Ironworks is shown, to the west of Foley Road by Cockster Brook.

Accounts of life in the Potteries in the 19th century describe Longton as "a town of narrow streets, winding lanes and courts hidden under a pall of smoke." (Warrillow 1960, 193) It is estimated that 16,000 to 18,000 people lived in the town by the middle of the century. (Hawley 1979, 5)

"The streets were narrow and contained many workmen's dwellings; but these houses of the people had been erected regardless of size, form or order. A number of houses would be built right up to the narrow causeway, while the adjoining row would stand several feet back. The sanitary arrangements were of the worst possible description. People could build how or when they pleased."

(Hawley 1979, 5-6)

The concentration of potbanks within Longton and the situation of the town in a hollow, made it the most polluted town in the Potteries. (Briggs 1983, 23)

A Government Inspector was sent to study the state of the pottery towns in 1861, with specific reference to Longton as the conditions here were particularly bad. The Inspector, Richard Baker wrote:



Figure 6. Rawlinson's map, 1850.

"The Banks have indeed been formed, in many instances, of old premises rude in construction, unevenly built, and of all sorts, sizes and shapes, background and foreground blending in grotesque confusion; and having been added to from time to time as the necessity arose for greater accommodation, they now resemble huge rabbit burrows rather than manufactories, for they are in and out, up and down, underground and attic, up rickety stairs and down storage cellars requiring a firm step and an aptitude to stoop, and a sharp eye to enable one to see round all corners, for the creatures, young and old, male and female, which are running here and there, in every direction."

(Baker 1991, 64-5)

White's directory of Longton from 1851 lists 42 china and earthenware manufacturers and 5 gilders, lusterers and ornamenters of china and earthenware operating in Longton. Pottery production is just one the many activities taking place in the thriving town at this time. Others include crate makers, milliners, wheelwrights and timber merchants. A very large amount of inns, taverns and beerhouses are also listed, indicating how the people used their time once they have finished their work. (White 1851, 263) Drunkenness was a problem in the Potteries, and in one Longton pottery 60% of the clay-hands were habitual drinkers and many of them failed to turn up for work on a Monday morning after a weekend of drinking. (Warrillow 1960, 247)

1856 50" Ordnance Survey Map of Longton.

The areas to the south and west of the town centre and the A50 route are mainly taken up with industrial works, such as coal mines, clay pits and brick works. The industries are interspersed with houses and pubs.

The tram route is shown passing down present day Corwell Street, with two branches going down Cooke Street and Barford Street.

The Victoria pot works is on the corner of Willow Row and the Strand, with a theatre behind.

The eastern half of the A50 route contains clay pits near Lightwood Road and Beaufort Road, but apart from this one industrial activity the area is mainly residential with housing along Spring Road, Lockett's Lane and Upper Normacot Road.

A large suburban development scheme was instigated in the 1860's by the Duke of Sutherland who owned much of the land around the town. The area between the Uttoxeter and Trentham roads was developed and named Florence after one of his daughters. The Duke also laid out another residential district to the east called Normacot, and by 1900 the whole area of land between the Trentham and Uttoxeter roads was built up with Sutherland estate housing. (Palliser 1976, 229)

1878 25" Ordnance Survey Map and 50" Ordnance Survey Map of Longton.

(Figure 7)

The street plan of the town is more fully developed with many minor roads having been built in the last two decades, such as Griffin Street to the west of Heathcote Road.

A number of potworks are shown on the map with the majority being situated north and south of Uttoxeter Road, along The Strand, Gold Street, Greendock Street and Willow Row. There are a number of industrial works to the west of the A50 route, including clay pits, brick works, a brass foundry and iron works.

The tram line follows the route of Corwell Road from the main line west of the railway bridge. The Longton Gas Company had been formed in 1858 and their works is situated to the south-west of the station.

A colliery is shown on the map in the area of land between Lockett's Lane, Webberley Lane, Lightwood Road and Normacot Road, where there is presently a recreational ground. There is a potworks in this area also, on the corner of Beaufort Road. This area is mainly residential, despite these industrial activities, and at the far eastern end of Phase 1B the land consists of housing only.

By 1900 there were few improvements in the slum areas of the town and many people were still living in areas that were "filthy and rife with small pox and other diseases." (Warrillow 1960, 188) The worst areas were around Heathcote Road, the Edensor district, Lower John Street and Lockett's Lane. Blocks of houses could contain up to 30 dwellings in which some 140 people lived. The slum houses consisted of one room and a scullery downstairs, with two bedrooms upstairs. There was an outhouse in the yard divided into six communal privies without doors. (Warrillow 1960, 320) One street had only one privy for seven houses. (Warrillow 1960, 193)

Twentieth Century:

1900 25" Ordnance Survey Map. (Figure 8)

The street plan of the town is almost fully developed although a few roads such as Baths Road and Moulton Street have yet to be built. The public baths had been built close to the railway bridge at Times Square in 1881, later giving Baths Road its name. The baths were closed down in the early 20th century due to damage caused by mining subsidence. (Warrillow 1960, 374)

The pottery works by this time are mainly confined to the centre of town, to the north of the A50 route, along The Strand, Commerce Street and Uttoxeter Road.



CAVERSWALL STOKES UPON TRENT, STONE & TRENTON PARISHES

Figure 7. 1878 Ordnance Survey map.



Figure 8. 1900 Ordnance survey map.

The area of land where coal mining had been taking place two decades before, at the present day recreation grounds, has gone out of use and is labelled as old coal shafts.

The tram or train lines branch off from the main line in two directions. The first line forks at Murdock Street and Ashton Street and terminates there, perhaps serving the gas works or industrial activities close-by. The second line passes down The Strand and then down Trentham Road, crossing the A50 route by Cartwright Street.

The slum areas of Stoke-on-Trent were demolished in the mid - late 20th century as part of the city's slum clearance scheme, with the majority in Longton such as Edensor and Heathcote districts being demolished in 1957. (Warrillow 1960, 185)

The aerial photographs of Longton from the late 20th century show the town to be little different in its appearance to today. The 1971 photos (140 71 050 & 051) show some areas to be undeveloped and perhaps used as waste tips prior to later development. Two areas are now recreation grounds. The photographs from 1982 (08 82 190 & 191) and those from 1993 (Run 15, no.s 115 & 116) show the land use of the town to be very similar to today, prior to the construction of the new A50 route.

3. Previous Archaeological Assessments In Longton.

Report on the ground conditions, Longton, Bennett precinct. 1990. (Report No. 2.)

The site of the Bennett shopping precinct was being scheduled for later development and this report, by Wardell Armstrong, was undertaken to assess the condition of the ground in the area. The survey involved the study of archive records as well as site work, such as trial trenching, cable percussion and rotary boreholing. The survey located coal working and shafts within the site, but little archaeological evidence due to later disturbance.

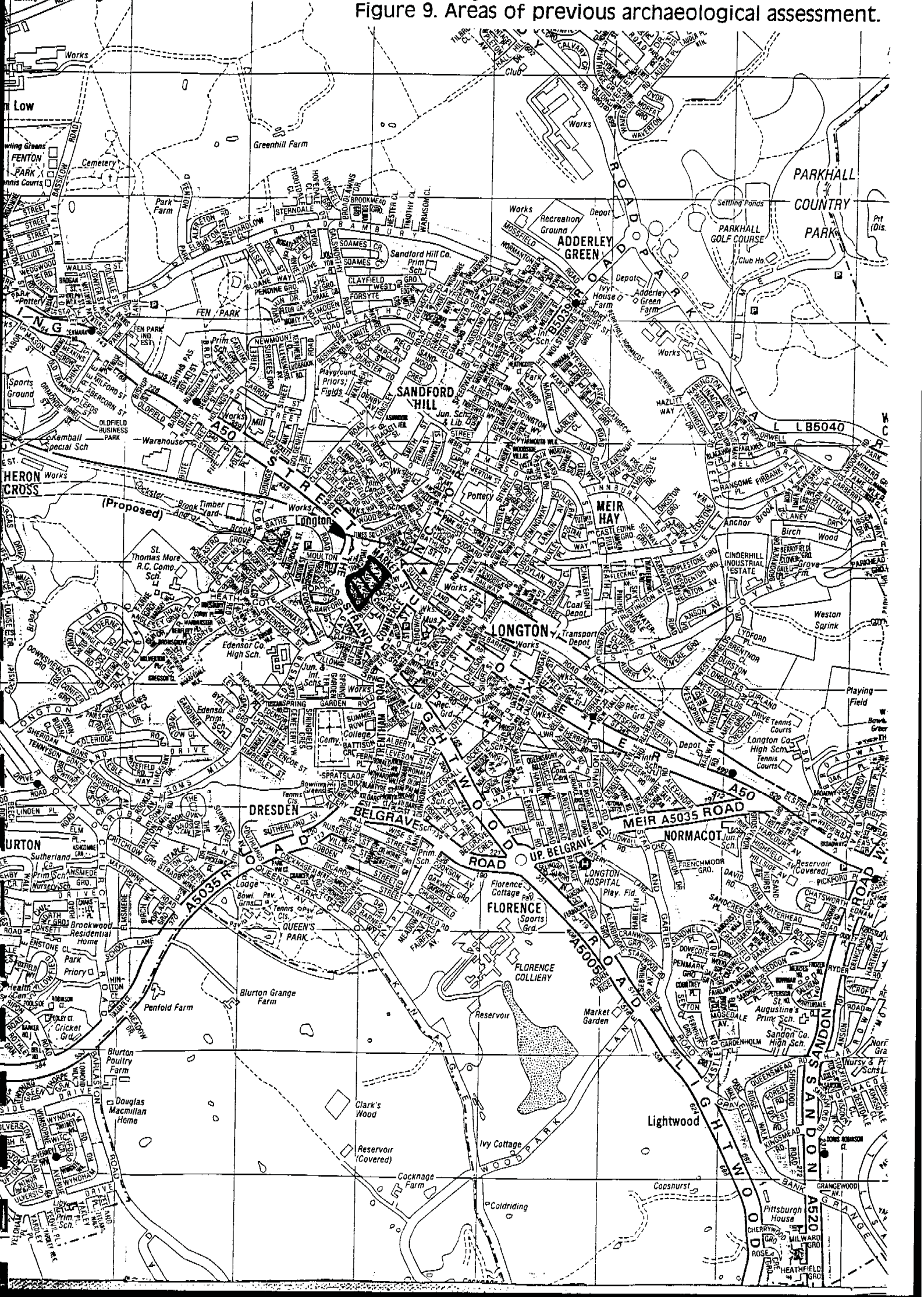
Longton town centre evaluation. March and May 1993. (Report No. 11.)

This study was centred on the Commerce Street and Chancery Lane area of the town centre, and was undertaken by Stoke City Museum Archaeology Unit. This has been an area of extensive pottery production since the 18th century, but no evidence of pottery manufacture was unearthed from before the 19th century. A number of trial holes were dug, but the ground was found to have been heavily disturbed since the late 18th and early 19th centuries. The area was basically made-ground containing pottery and mining waste.

Longton, Bennett precinct, watching brief. May 1994. (Report No. 26.)

The watching brief was undertaken by the City Museum Archaeology Unit, during repair and redevelopment of the precinct. The trial trenches unearthed some unstratified 19th century pottery sherds and made-ground, but no significant finds were uncovered. The area had probably been cleared in the 19th century destroying earlier deposits.

Figure 9. Areas of previous archaeological assessment.



4. The Major Industrial Activities in Longton.

The two main activities that have dominated the town of Longton, both economically and physically during its development as an industrial centre, are the extraction of coal and the manufacture of ceramics. The industries worked in tandem, being to a large extent dependent on one another.

The Pottery Industry.

The pottery industry began to develop on a large scale, in the Stoke-on-Trent area, in the 17th century. Medieval potters in Britain worked on a small scale, close to their supply of clay, providing pottery for local markets. (Sekers 1994, 3) North Staffordshire in the 17th century consisted of small farming villages with potters producing domestic wares for the localised area. Longton at this time was merely a scatter of irregular cottages. During the 17th century, the potters working around Burslem gained an economic advantage over rural workshops by using coal as a fuel, instead of the diminishing timber supply. The easily accessible coal, coupled with the supply of suitable local clays, stimulated the development of Burslem as an embryonic centre, producing cylindrical butter pots and other domestic wares and later distinctive slipware vessels. (Sekers 1977, 7)

By the beginning of the 18th century, as the markets for these ceramics became more widespread and less localised, the region became a prominent centre for pottery production, and the six towns began to develop as industrial centres economically based on the ceramics industry. Innovations in manufacture during the 18th century, such as the introduction of copper-plate transfer printing and the development of plaster moulds, greatly cut down on production time and increased the quantity of ceramics produced. (Sekers 1977, 9) These changes decreased the need for highly skilled professional craftsmen as the work could be undertaken by less skilled employees producing vast amounts of pottery for the British markets and for export to Ireland, Europe, the West Indies and America. (Greenslade and Jenkins 1967, 12)

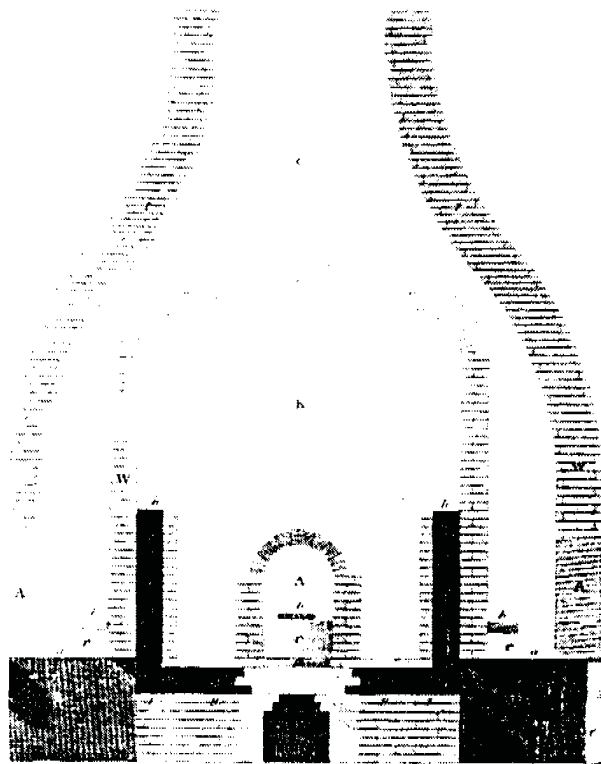
The pottery industry developed later in Longton than in the other five towns, with a slow start in the 18th century. Land was developed for the building of the potworks throughout Stoke-on-Trent area, wherever communication and provisions of raw materials made the siting economically viable. The major landowners of the district often hindered industrial development by not releasing land or by leasing plots in a

controlled way so that development was not detrimental to their estate. In Longton the major landowning families were the Staffords and the Foleys (from 1784 Heathcote), who allowed building on their estates on what was largely waste land. However, this suited the potters as this included the land along Uttoxeter Road, a good route for communication and transportation. (Baker 1991, 17)

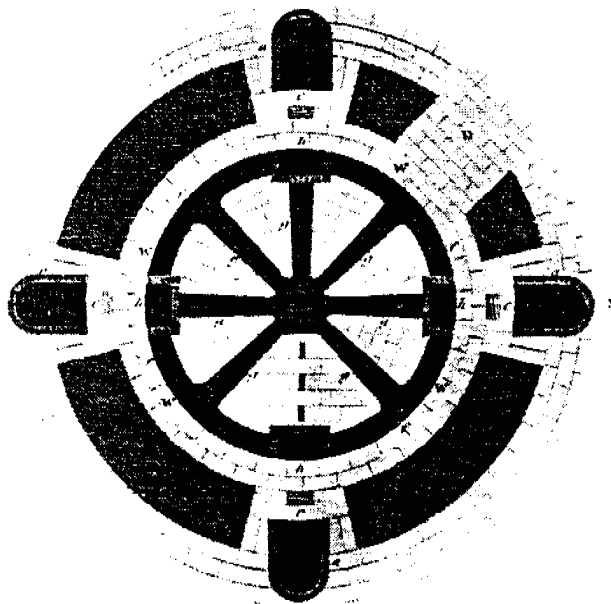
Longton's economy and industry developed greatly in the 19th century, and the town expanded quickly but without planning. The town had a much larger amount of small potworks than the other five towns, with the houses and factories being interspersed. (Baker 1991, 37) Longton became prominent in the production of fine bone china, but also in the manufacture of cheaper wares for ornamental and domestic use.

The pottery manufactories were often haphazard and disorderly in appearance due to mining subsidence, lack of rational planning, cramped sites and general decay and dilapidation. The potbanks distinctive shape evolved from the medieval and post-medieval kilns which placed the pots separate from the heat from the surrounding fire boxes. This type of kiln was surrounded by a separate structure by the end of the 17th century. This was the hovel which acted as a chimney to control and direct the draught upwards, and which gave the potworks their distinctive bottle shape that dominated the landscape of the six towns. (Sekers 1994, 16) (Figure 10) The workshops where the clay was prepared and the pots produced were sited around the potbanks, perhaps around a yard in the centre to provide access to all of the different parts of the manufactory.

The pot-oven had to be brought up to a temperature of 1000-1150 degrees centigrade for earthenware firing and it was during this process that the greatest financial losses could be incurred. It was not uncommon to lose 20-30% of the pots during firing in the bottle ovens. The pottery was placed inside saggars, coarse round ceramic vessels that were stacked in the kiln in 'bungs' around 16 ft/4.9m high, in concentric circles. The saggars protected the pots from the intense heat and smoke, and each bottle oven might have contained 2,000 saggars each weighing up to half a hundredweight. (Sekers 1994, 24-5) Small items of 'kiln furniture' divided the wares in the saggars, such as stilts, spurs and thimbles, to prevent the pots from fusing together in the heat of the kiln. These were produced at each factory for use in the potbank, until the end of the 19th century when individual factories began to specialise in their production. (Sekers 1994, 28)



Horizontal Section



This plan and section of a bottle oven dating from 1815 shows a structure well developed to assist and control even firing. It changed little subsequently. The vertical section shows an inner structure (the oven) enclosed by an outer funnel-shaped shell (the hovel). A doorway to the hovel permitted the fireman access to the four firemouths. Another door in the oven enabled the ware to be placed inside, usually in containers called saggars. The horizontal section shows the interlocking system of flues, which distributed the heat from the firemouths into the centre and sides of the oven.

The archaeological remains associated with the pottery industry have been excavated in many areas of Stoke-on-Trent. Evidence of these activities is often unearthed and can involve the discovery of the remains of a potbank and its associated buildings or the waste products of the process. This pot waste usually consists of pottery rejected at various stages of the production process, such as those damaged during firing, as well as kiln furniture and saggars that were no longer required. The waste, which is not recyclable, is known as 'shraff' and large tips of the material form part of the Potteries landscape.

The process of manufacturing pottery required a ready supply of coal, especially during firing. The fireman, who regulated the temperature of the bottle oven, had to stay with oven during the firing, perhaps for 72 hours at a time. During this time an average-sized biscuit oven could consume 10 or 12 tons of coal. (Sekers 1994, 25) The extraction of coal worked alongside the pottery industry, as well as other dominant activities such as brickmaking and iron working.

Coal Mining.

Documentary evidence for coal mining in the Stoke-on-Trent area goes back to the 13th century with references to mines at Tunstall in 1282. (Sherlock 1976, 91) The North Staffordshire coalfields are centred on The Potteries and stretch from Biddulph in the north, Silverdale in the south-west and Longton in the south-east. (Sherlock 1994, 86) The six towns are sited along the outcrops of long-flame coal, suitable for kiln firing, and the clay which occurs in close association with it, as well as a supply of water needed for the washing of clays and the grinding of raw materials. (Greenslade and Jenkins 1967, 1) (Figure 11)

Evidence for coal mining in the Stoke-on-Trent area has been gained from documentary sources such as Plot's Natural History of Staffordshire, written in 1686. He describes the methods of extraction and the large amount of mining activity in the region at this time. (Plot 1686, chap.III, para.33) Yates' map of Stoke-on-Trent from 1775 clearly shows a large number of coal pits in the Longton area, especially in the triangle of land between Uttoxeter Road, Meir Road and Lightwood Road. These pits would have benefitted, along with the rest of the North Staffordshire coalfields, from the development of the pottery industry in the 18th century. (Flinn 1984, 16)

The methods of digging coal developed greatly during the industrial period. Originally the coal was extracted with picks and shovels along outcrops. Another early

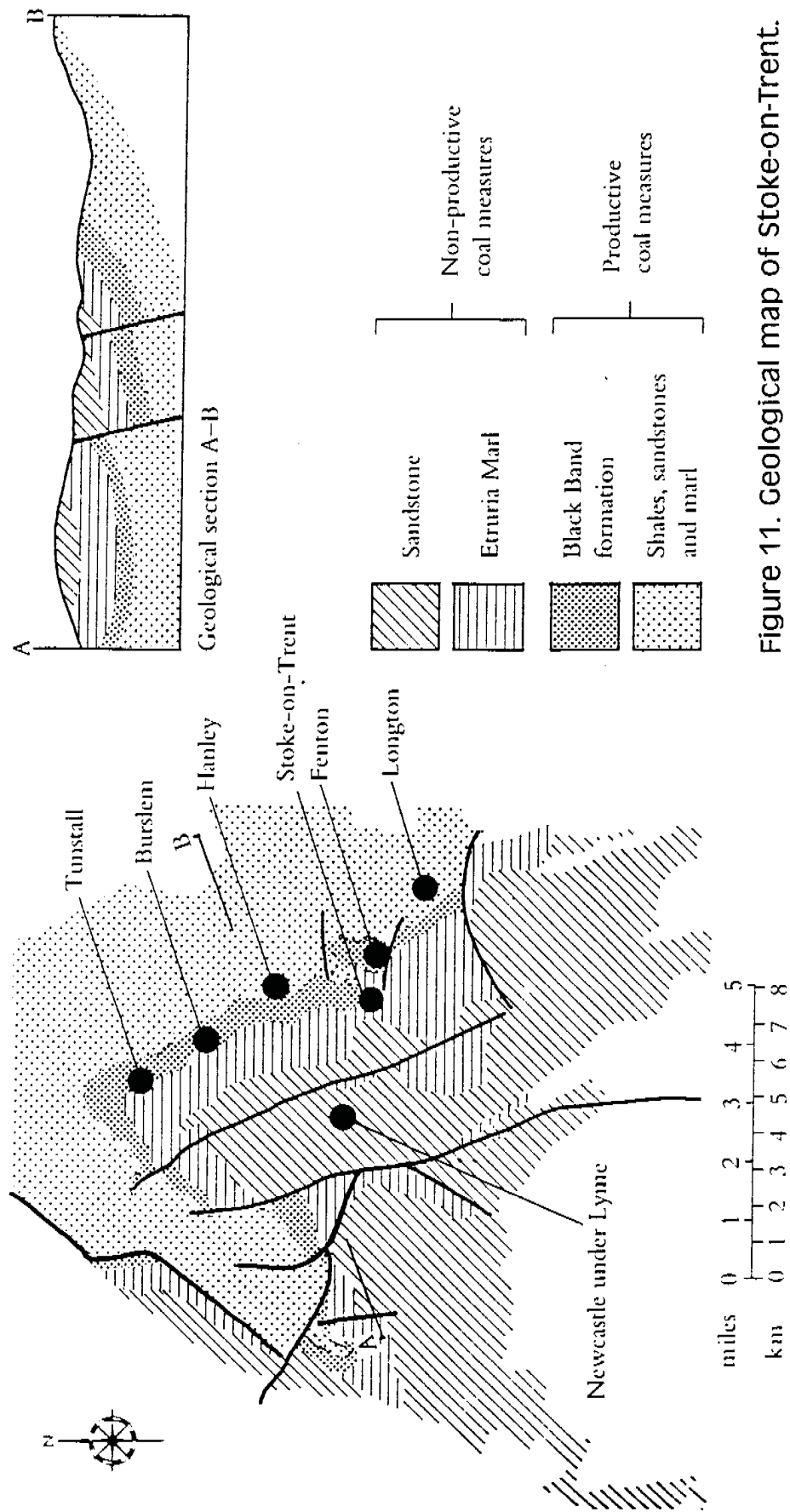


Figure 11. Geological map of Stoke-on-Trent.
(Baker 1991, 7)

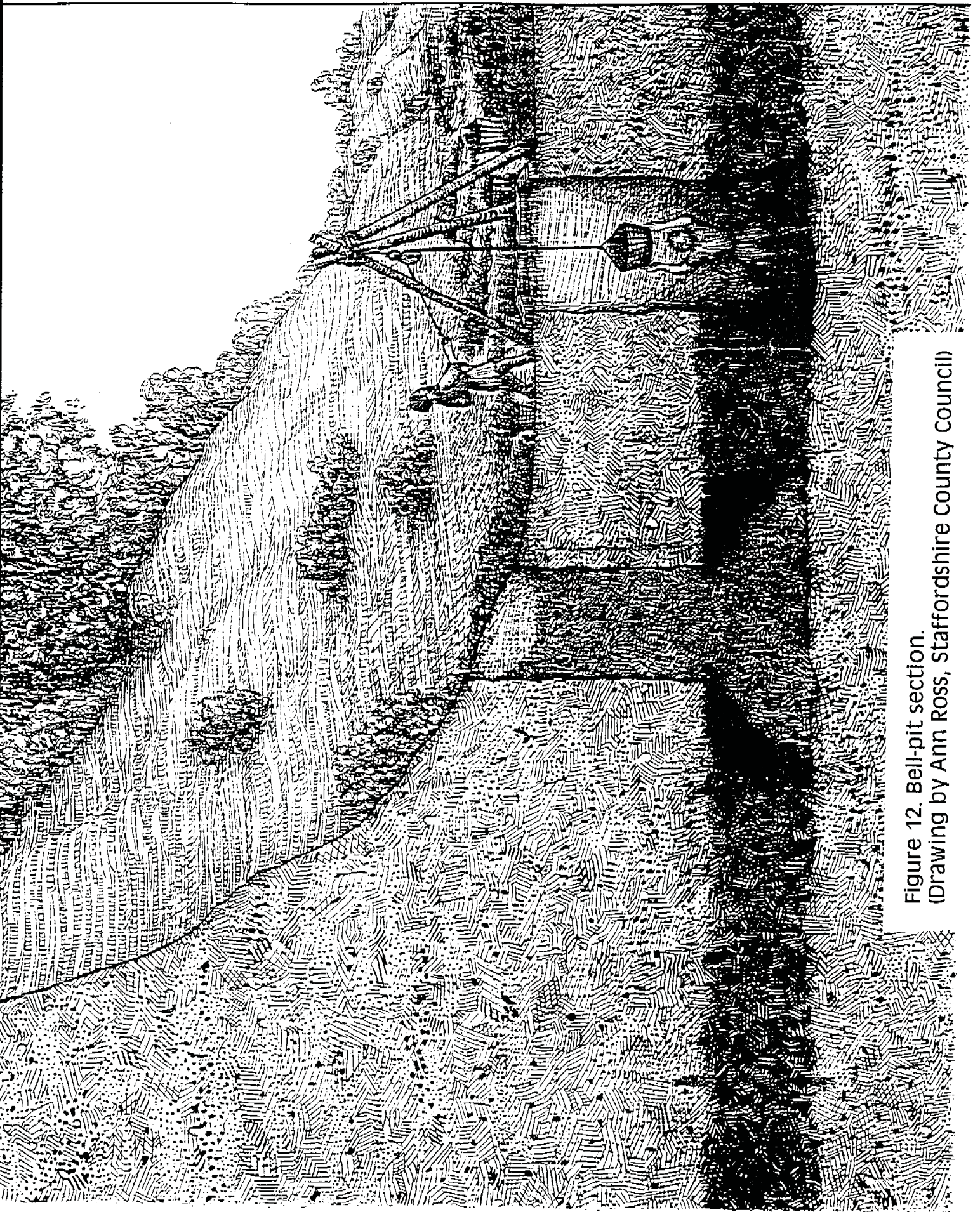


Figure 12. Bell-pit section.
(Drawing by Ann Ross, Staffordshire County Council)

method was the sinking of a series of 'bell' or 'beehive' pits. A shaft was mined, around 3-5 feet diameter, through the overlying strata and into the coal to a depth of no more than 10 m, and then the coal around was worked creating a bell-section chamber. New pits were dug around 6-10 yards apart as the first pits were being finished creating a continuous process, with the soil and waste from the excavation of the new shaft being used to fill the adjacent disused pit. (Anderson 1982, 25) (Figure 12)

The problems of water and lack of air in the pits were often alleviated by the digging of a 'gutter' or 'sough'. A sough was a tunnel dug at a very slightly rising gradient from the lowest point in a valley to intersect the seam as far away from the outcrop as possible, to drive water to the streams and away from the workings. (Anderson 1982, 27) Plot describes a sough or a "free natural course" that had been dug at the time of his writing, to help clear the air and drain the water from coal workings. (Plot 1686, chap.III, para.51)

The extraction rates of these early miners was low and there was a greater need to reach further down the dip of the coal seam. The sinking of deeper shafts developed between 1780 and 1800 and is related to the technological changes of the late 18th century. Many larger coal mines were opened in the Longton area in the late 18th and early 19th centuries, such as Meir Hay Colliery in 1791; Foley Colliery in 1826; and Lane End Colliery in 1832. (Pugh 1963, 243-4) The town of Longton also contained a number of iron works which worked in conjunction with the collieries, such as Lane End Iron works which was associated with Lane End Colliery from 1832-1888. (Pugh 1963, 244) By 1850 there were around 4,000 colliers working in North Staffordshire earning up to 20s to 30s a week. (Warrillow 1960, 258)

A good communication network was needed throughout the six towns for the transportation of raw materials and finished goods. The canals that were developed in the 18th century did not reach Longton, so road transport had to be relied upon. This system was improved in the early 19th century by the introduction of tramways linking the canals, roads and collieries. This was especially helpful to the potters and colliers of Longton who were now linked by a tramway from Longton to Stoke. This new rail link was used as a selling point in the sale of a Longton pottery manufactory in 1806, with the advertisement highlighting:

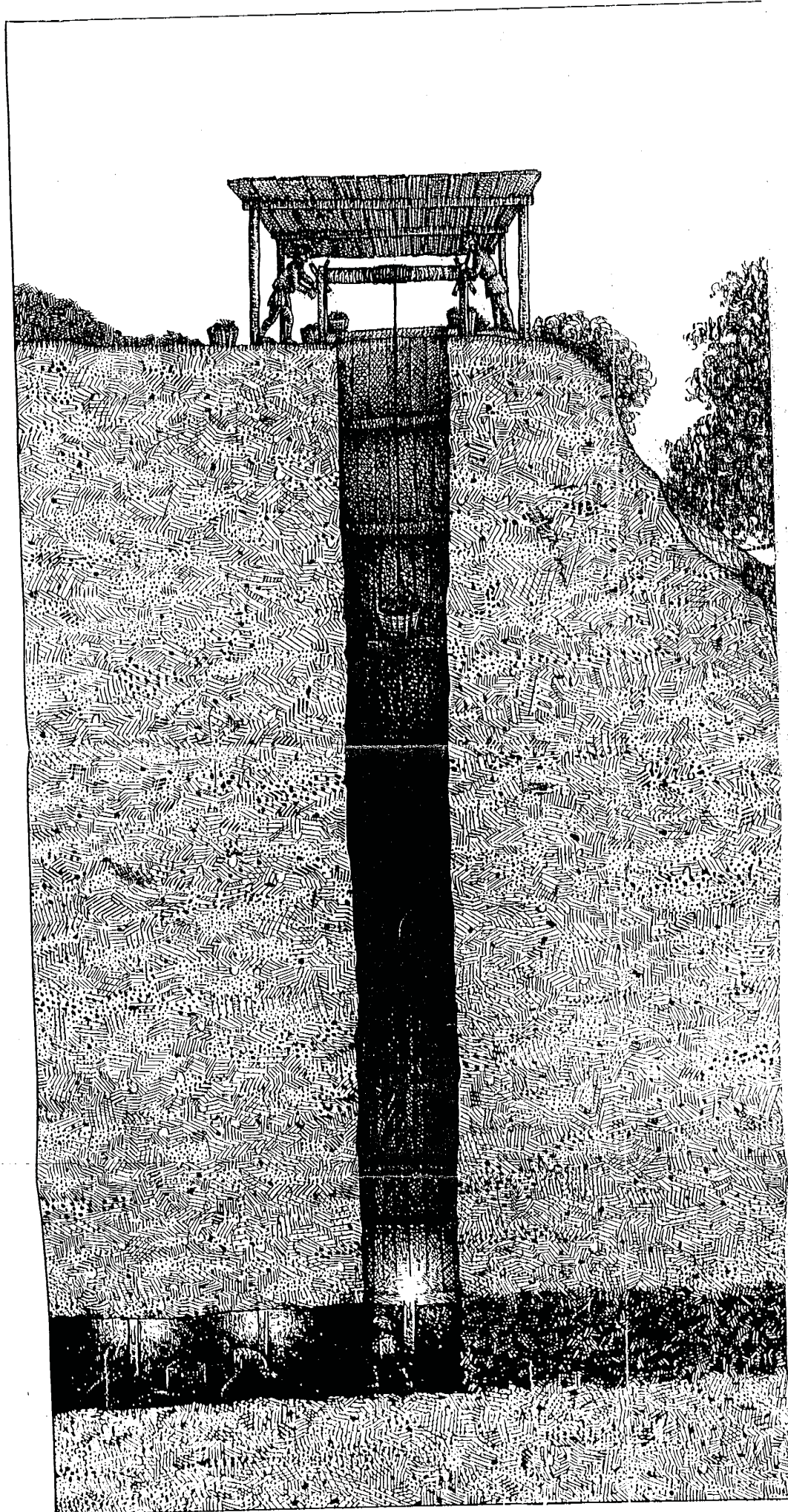


Figure 13. Deep mining section.
(Drawing by Ann Ross, Staffordshire County Council)

"the ready delivery of coals, by a Railway, within 40 yards of the Pit's Mouth, even without the assistance of a Horse. This singular advantage in a consumption of 40 tons of coal per week, would render a direct saving of £150 per annum. And as a Railway is now laid from Lane End to Stoke, the necessity of keeping a tram of horses for this manufactory would be completely obviated."

(Baker 1991, 38)

Brickmaking.

Other dominant industries working to a large scale in Longton during the Industrial period, include brickmaking. Etruria marl was extracted in the area at least from the late 17th century, and Plot makes reference to the brickmaking industry in his study of Staffordshire of 1686. Etruria marl is a heavy clay suitable for the production of bricks and tiles. It becomes blue when heated and has a high crushing strength. The brickmaking industry was very important to the county as a whole, and by the early 19th century Staffordshire was the largest brick producing county after Lancashire. (Greenslade and Jenkins 1967, 255)

Other Industries.

Other activities and industries taking place in Longton can be seen listed in 19th century gazetteers and directories, and include blacksmiths, crate makers, flint grinders, joiners and stone masons. (White 1851, 160-8) So despite the predominance of the pottery and coal industries, a large number of smaller-scale activities were being undertaken in the town alongside the larger manufactories.

Urban Area Discrimination.

It was decided that the study of Longton should incorporate the methodologies set down in English Heritage's Monument Evaluation Manual (MEM), which was compiled for use in connection with the Monuments Protection Programme (MPP). The MPP regards urban areas as being one of the three principal scales of archaeological evidence recognised for attention in the context of archaeological resource management, the other two being single monuments and relict cultural landscapes. (Darvill 1992, 15)

The Monument Evaluation Manual describes the methodology involved in the analysis of urban environments and archaeological resource management. The aim is to develop strategies "which provide for the preservation, protection, conservation and appropriate exploitation of archaeological deposits which are congruent with the economic and social requirements of continuing occupation and urban renewal." (Darvill 1992, 16)

The evaluation of urban areas involves a three-stage process of **characterization**, **discrimination** and **management appraisal**.

Characterization: This involves the identification and characterization of the main features of the archaeological resource. The nature and extent of the resource is determined and the scope of interest is established by factors such as rarity, diversity, representativity and period. (Darvill 1992, 17) For Longton this involved the compiling of a desk-top assessment which formed the basis of the archaeological and historical background study to the town.

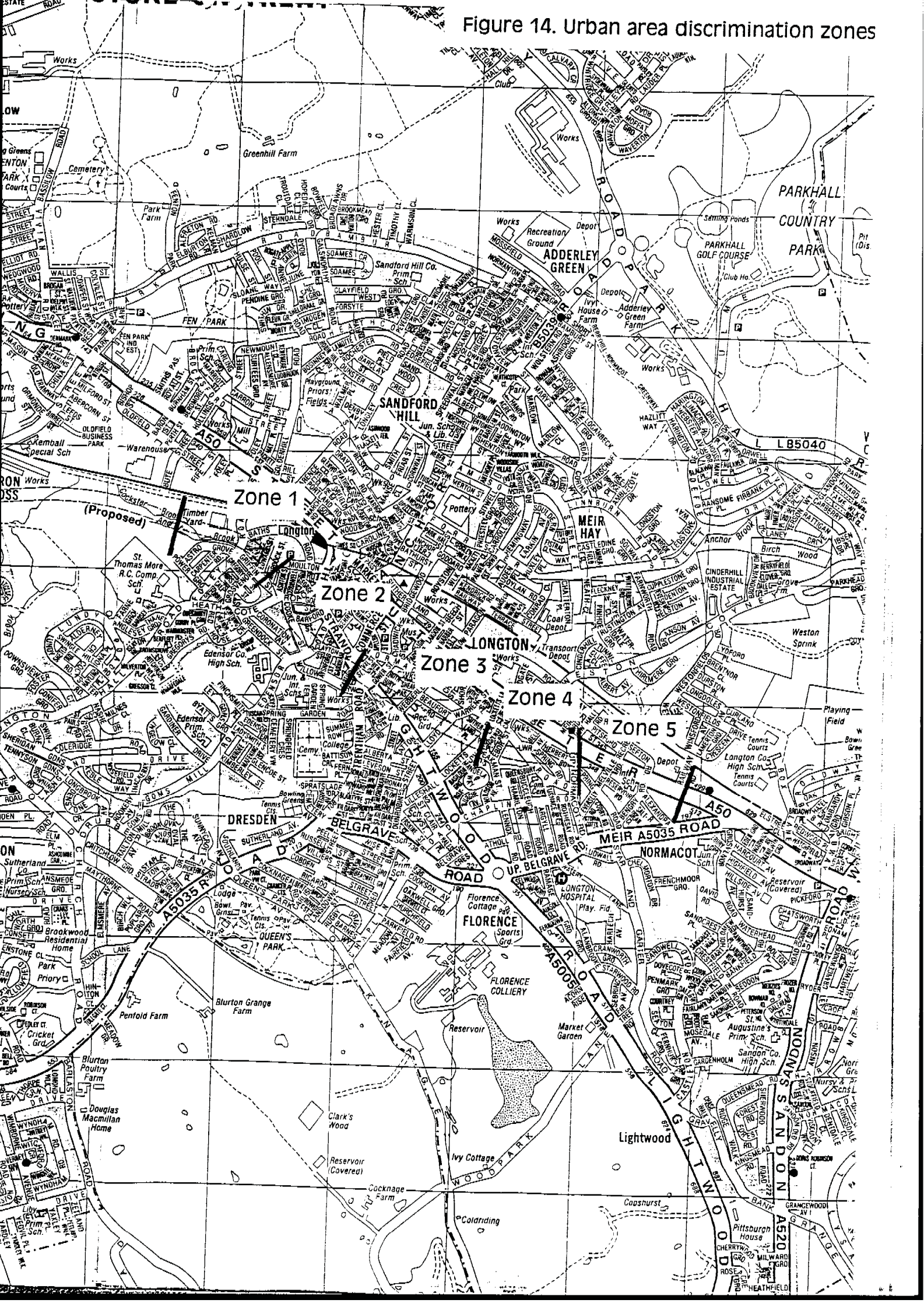
Discrimination: This stage can involve the study of single monuments or accumulated deposits, and utilises the information collected during the characterization stage. The Monument Protection Programme summarises the aim of the discrimination stage as identifying:

"in a general way, the most archaeologically important parts of a given area, and thus to enable those areas of greatest interest to be distinguished from those of lesser interest as the basis for informing management strategies. The eight discrimination criteria can be used as the basis for systematic evaluation at this stage in the process, although as always professional judgement has a role to play too."
(Darvill 1992, 55)

The eight discrimination criteria are - survival; potential; documentation (archaeological); documentation (historical); group value (clustering); diversity (features); group value (association); and amenity value. The criteria are graded on a scale of 1 to 3, with 3 being the highest marks for those areas with best potential for study and surviving features. Once the criteria have been determined for all recorded sites in the area, it is possible to produce a zoned map for each criteria to determine the areas of greatest interest within the urban environment.

In the case of the study of Longton the route of the new A50 has been divided into five equal zones, with each area evaluated separately. (Figure 14) The results of the urban area discrimination are as follows for each zone:

Figure 14. Urban area discrimination zones



Zone 1. Cockster Brook to Murdoch Street.

1. Survival. Medium (2).

No standing structures. Area has been used for coal mining, but not deep shaft mining, so there is the possibility of bell-pits remaining. Cuts through Spencroft and Great Row seams, which are located close to the surface in this area. Little damage by recent activities as mainly waste ground behind 19th century housing and shraff tip along Cockster Brook. Possible use of land behind houses for dumping waste materials, yet likely to be thin deposits under the houses.

2. Potential. Medium (2).

Not really been effected by modern development, but no remaining structures. However, no evidence that anything ^C ~~was~~ there except 19th century housing. Possibility of waterlogged conditions near the brook. Potential for coal mining evidence, eg. bell-pits and mining equipment.

3. Documentation (archaeological). Poor (1).

No archaeological investigations; no surveys; no environmental analysis.

4. Documentation (historical). Medium (2).

1775 Yates's map; 1832 Hargreave's map; OS maps 1856, 1878, 1900. The maps show^w the use of the land from the 18th century onwards and the localised industries, ie. iron foundry, brass foundry, gas works, Lane End Colliery. Also shows the housing and the waste land behind them. The sough on Yates's map points to this area. No pottery manufacture in this area until 20th century in Griffin Street. Slum area to the south cleared in 1950's.

5. Group value (clustering). Medium (2).

Coal mining and industrial activities such as brass and iron working are in the same area, but not to a great extent.

6. Diversity (features). Low (1).

Little, if any, superimposition as few activities in the area.

7. Group value (association). Low (1).

No succession of activities. Land use seems to be from 18th century onwards.

8. Amenity value. Low (1).

On the periphery of the town centre. No visible remains and no historical associations. Very poor access. Waste ground and housing. No industrial activities presently in the area.

Total 12/24

Zone 2. Murdoch Street to Cartwright Street.

1. Survival. Medium (2).

Area has been extensively redeveloped as this area is very close to the town centre and the main routeways through the town. Little standing relating to past activities, ie. pottery production and industrial activity as new buildings, works and houses now in area. Most earlier structures destroyed, therefore any features will be below the ground, but may have been destroyed by later development.

2. Potential. Medium (2).

Features may be preserved but have been effected by modern development. Few standing remains unaltered, but some later industrial works back onto area, eg. in Barford Street.

3. Documentation (archaeological). Poor (1).

Watching briefs along Strand and Commerce Street, but not along the route itself. Remains of tramway found along Cooke Street, but not enough known yet archaeologically.

4. Documentation (historical). Medium (2).

Yates's map 1775; Hargreave's map 1832; OS maps 1857, 1878, 1900; photographs from late 19th and 20th centuries; contemporary accounts of life in the town; Hampson's study of Longton potters gives information on the location and date of potworks; VCH; 19th century gazetteers of occupations and industries; known locations of brick works and clay pits in 19th century; tramlines down Cooke Street. Mainly 19th and 20th century information, less so for 18th century and before.

5. Group value (clustering). High (3).

Large concentration of similar activities especially pottery production, but also clay pits and brick works. Localised industry with more potworks in this area of the route than in all the other zones put together, therefore great potential.

6. Diversity (features). Medium (2).

Some diversity but generally of the same type. Little superimposition of potworks as would have been too expensive to rebuild new works, so took over old ones.

7. Group value (association). Low (1).

Only one main form represented, industrial town from the 18th century onwards.

8. Amenity value. High (3).

Not that much to see, but historical associations very strong due to place in industrial history and archaeology. Associations with the development of the pottery industry.

Total 16/24

Zone 3. Cartwright Street to Lockett's Lane.

1. Survival. Medium (2).

The area has been redeveloped but not really built on until the 19th century and not as extensively as zone 2. Some land is still open, such as the recreation ground and land to the east of there, therefore deposits may survive underneath these areas, especially evidence for mining. Slum areas from 19th century down Lockett's Lane cleared in the 1950's. The waste land may have been used for dumping waste materials.

2. Potential. Medium (2).

Features may be preserved as not much large-scale development. No standing remains but some potworks along Normacot Road just to the north of the area.

3. Documentation (archaeological). Poor (1).

No watching briefs, evaluations, casual finds or SMR information.

4. Documentation (historical). Medium (2).

Yates's map 1775; Hargreave's map 1832; OS maps 1857, 1878, 1900; photographs from late 19th and 20th centuries; contemporary accounts of life in the town; Hampson's study of Longton potters gives information on the location and date of potworks; VCH; 19th century gazetteers of occupations and industries; known locations of coal mining, brick works and clay pits in 19th century; coal mining records go back to 1695.

5. Group value (clustering). High (3).

Coal mining and clay pits extensive from 18th century to late 19th century, therefore concentration of mining and extraction industries.

6. Diversity (features). Low (1).

Little change in land use over time, if any.

7. Group value (association). Low (1).

Only one main form represented, industrial area from the 18th century onwards.

8. Amenity value. Low (1).

Poor access and no visible remains, apart from Sutherland Institute close by. Slightly on the periphery of the town centre. Bottle kilns and pot banks close by but not on the A50 route.

Total 13/24

Zone 4. Lockett's Lane to Uttoxeter Road.

1. Survival. Medium (2).

Mainly residential developed in the 19th century, with some housing perhaps having been redeveloped and newer houses built. Earlier features may therefore survive underneath. Possibility of coal mining evidence underneath. Maybe used for dumping waste materials.

2. Potential. Medium (2).

Only standing buildings are housing, but features may be preserved underneath. Possibility of pot waste below.

3. Documentation (archaeological). Poor (1).

No watching briefs, evaluations, casual finds or SMR information.

4. Documentation (historical). Medium (2).

Yates's map 1775 gives location of coal mines; Hargreave's map 1832; OS maps 1857, 1878, 1900; photographs from late 19th and 20th centuries; contemporary accounts of life in the town; Hampson's study of Longton potters gives information on the location and date of potworks; VCH; 19th century gazetteers of occupations and industries.

5. Group value (clustering). Low (1).

Perhaps coal mining and extraction industries, but not certain at this stage.

6. Diversity (features). Low (1).

Little change or superimposition, Maybe coal mining then housing.

7. Group value (association). Low (1).

Only one main form represented, housing from the 19th century.

8. Amenity value. Low (1).

Poor access, no visible remains, no associations, apart from being part of Longton and Potteries. Alhambra Cinema now demolished - early 20th century structure of interest to some people therefore facade preserved.

Total 11/24

Zone 5. Uttoxeter Road to the end of Phase 1B.

1. Survival. Medium (2).

Area has been redeveloped with shops and houses, and the road has been redeveloped also, but features may survive underneath.

2. Potential. Medium (2).

Few standing remains, but preservation may be good underneath. Waste materials may have been dumped in the area.

3. Documentation (archaeological). Medium (2).

SMR information: Roman road PRN 1227; Roman coin PRN 2191; quern stone PRN 563; Medieval settlement PRN 2519. No extensive surveys, evaluations or watching briefs.

4. Documentation (historical). Medium (2).

Yates's map 1775; Hargreave's map 1832; OS maps 1857, 1878, 1900; contemporary accounts of life in the town; Hampson's study of Longton potters gives information on the location and date of potworks; VCH; 19th century gazetteers of occupations and industries; information on the Roman road from Derby to Chesterton in published reports, eg. Margary 1957; Domesday book mention.

5. Group value (clustering). Low (1).

No extensive activities in the area.

6. Diversity (features). Low (1).

Seems to be little superimposition, but not certain at this stage.

7. Group value (association). Medium (2).

Possibly Roman, Medieval and Post-Medieval, according to the archaeological and historical sources, but to what extent they survive is uncertain.

8. Amenity value. Medium (2).

No remains and access not too bad. Good associations however, as a Roman road and the medieval settlement.

Total 14/24

Results of the discrimination stage.

Zone 2 was established as the area of greatest archaeological potential and interest, with the other areas along the route having less interest. Zone 5, where the new route joins the present A50, has a great deal of interest also due to the proximity of the Roman road and the possible medieval settlement. The other areas do have interest and potential, but less is known about these zones than the area around the town centre. So despite gaining lower scores they will still be closely examined for archaeological information.

3. Management Appraisal: This stage utilises the results of the previous two stages to develop strategies for elements of the archaeological resource. These strategies will depend on condition, fragility, vulnerability and conservation value. (Darvill 1992, 18)

In Longton both the characterization and discrimination stages indicate that the town is of great interest historically and archaeologically and the urban area discrimination has proved the archaeological potential of the route of the A50. The evaluation of the area confirms the suitability of the approach taken by the Department of Transport in liaison with the City Museum, Stoke-on-Trent.

6. Methodology.

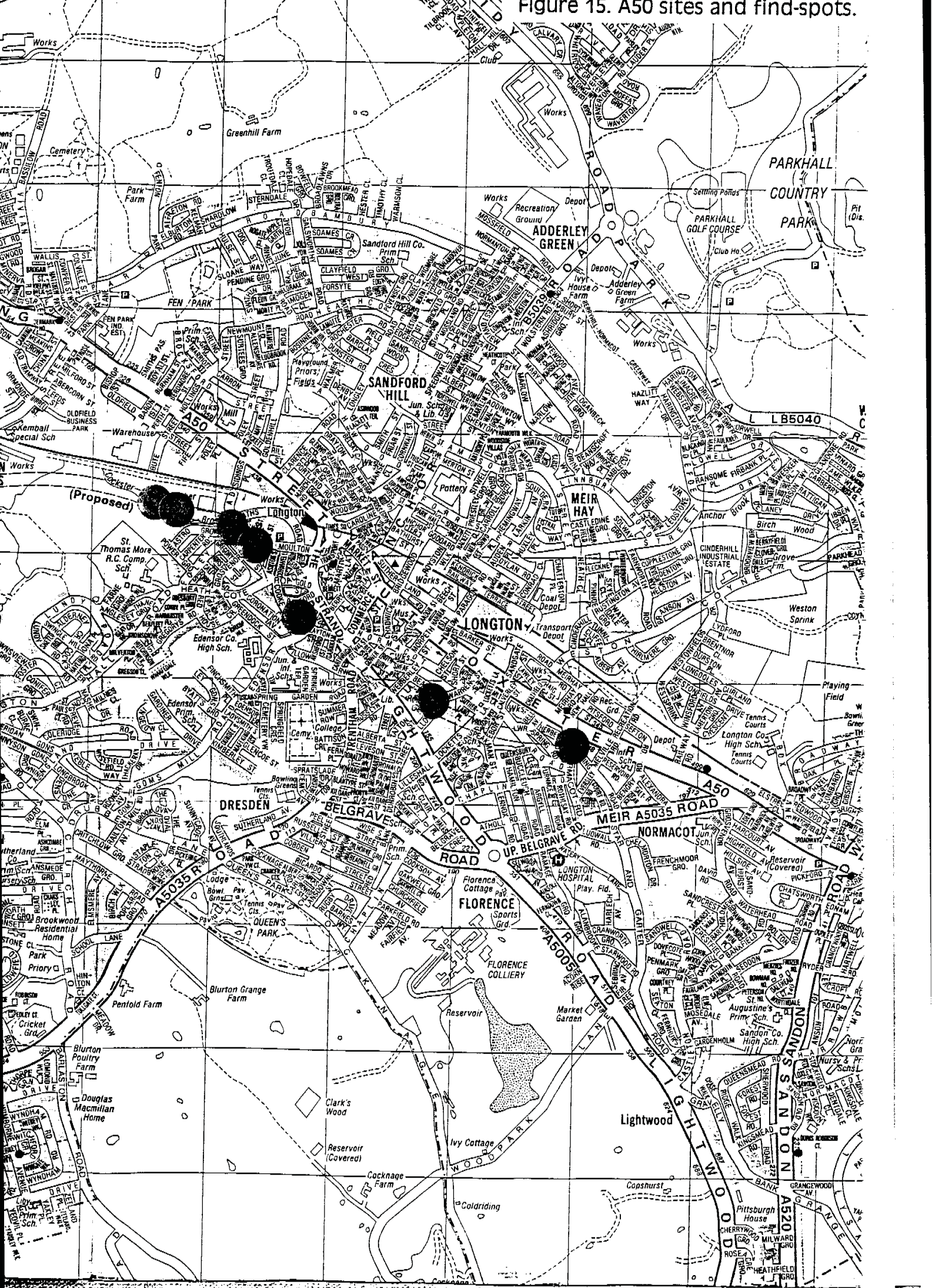
The day to day work entailed in the archaeological involvement in the A50 project, encompasses not only site visits to study the earthmoving process, but ongoing historical and archaeological research into the town and the artefacts that are unearthed. The results of extensive research undertaken at the start of the project can be seen in the summary of the historical and archaeological background, (Section 2). This includes a study of the maps and plans of Longton from the past few hundred years, as well as contemporary accounts of life in the town in the past. Research is also ongoing as it involves the study of smaller areas of land in the town as the work progresses, for example, Cooke Street car park and the land just east of Foley Road, which have recently been excavated.

The visits to the site of the major earthmoving are important to assess the condition of the excavated ground, for example the depth of made-ground surmounting the natural soil and to collect pottery to provisionally date these layers. Also useful are the sewer trenches being excavated, such as those at Lloyd Street which unearthed a layer of pottery and kiln waste. On-site recording involves registering any information into the Archaeological Site Records file, such as location, depth of deposits and the types of artefacts present. Photographs are also taken as they form a useful record of the site.

Once the artefacts have been collected, which mainly consists of pottery fragments, they are washed, recorded and marked, which usually takes place at the museum's Archaeology Unit where there are more facilities for this process. At the moment the finds are being stored in bags and boxes at the City Museum where they can be the subject of further study by specialists if necessary. For example, the transfer-printed wares and the industrial slipwares, which require specialist knowledge to gain the maximum information on these pottery types.

To date, the majority of archaeological information has been on the nature of the made-ground and pottery waste uncovered by the earthmoving process. It is hoped that more information on the activities of Longton's past will be unearthed closer to the town centre as 1995 progresses.

Figure 15. A50 sites and find-spots.



7. Summary of information gained so far.

Site 1. Small machine cut trench at the junction of Foley Road and Griffin Street.

A number of mid 19th century pottery fragments were unearthed including industrial slipware, bone-china and kiln furniture. The pottery is probably part of made-ground laid down to make up the ground level.

Site 2. Cockster Brook - stray find. Roman fibula brooch.

This bronze brooch was a casual find by a member of the public, who has retained the object. The pin, arms, catch plate and the upper part of the brooch are missing. The brooch is decorated with a line of circles along each edge and four vertical lines down the centre of the bow. (Figure 16)

This is probably a dolphin brooch, used throughout the 2nd and 3rd centuries AD. The discovery of this item reinforces the theory concerning the presence of the Romans in the Longton area.

Site 3. Lloyd Street recreation ground sewer trenches unearthed a 2.5m layer of pot-waste. The pottery dates from around the mid 19th century and includes saggar fragments, kiln furniture and biscuit pottery fragments rejected during the production process.

The pot waste was probably used as ground make-up during the construction of the recreation ground and road, or it was used to fill in coal and clay pits that were present on the site from the 18th to the late 19th centuries.

Site 4. Cockster Brook. Section of a brick structure, slightly curved, in three layers of brick. Twelve courses exposed.

The structure may have been associated with iron-working and coal extraction near the site in the 19th century, such as Lane End Ironworks which operated near by from 1826 to 1880. Large lumps of slag and clinker were found at the base of the structure, which contained bone and tile inclusions.

Site 5. Foley Road trough. A scatter of pottery was unearthed during excavation of the trough east of Foley Road. 34 pottery fragments were retained which included early 19th century industrial slipware (c.1810-1830), transfer-printed ware and kiln furniture. This pottery was perhaps part of a small waste tip, probably buried on the site in the early 19th century.

Site 6. Foley Road trough - early 19th century pottery and kiln waste tip. These fragments were located along the side of the trough and east of the pottery found at site 5. This extensive group, of which nearly 2,000 fragments were collected, contains a number of interesting pottery fragments. These include a large group of industrial slipwares from c.1800-1820, containing a vast array of designs such as geometrical patterns, marbling and worming. These fragments have been studied by an industrial slipware specialist from the USA, Jonathan Rickard, who excavates the same pottery types in New England that were shipped over to America in the 18th and 19th centuries. Also collected were many transfer-printed fragments which included a number of marked pieces. One bowl has the name MARSH stamped on its base. This probably refers to Jacob Marsh who produced pottery at the Boundary Works in King Street from 1819 to 1832. The business was taken over by John Riley Marsh in 1832 until 1836, so the mark may refer to his period of production. (Hampson 1990, 120)

One interesting fragment from the site consists of a saggar base which is fused to a blue transfer-printed plate and a fragment of kiln furniture. The pottery had fused to the saggar during firing after the glaze had been applied.

Site 7. Area from former King Edward Street to Heathcote Road. A number of waste pottery fragments were unearthed in this area and are probably part of the made ground laid down to make up the ground level before the building of the now demolished houses and roads. The pottery is mainly of mid to late 19th century date, and includes biscuit porcelain with raised thistle and flower designs and transfer-printed wares.

Site 8. Cooke Street Car Park - trenches dug by mechanical digger. A few fragments of mid to late 19th century pottery were retained during the observation of trial trench digging.

Site 9. Cooke Street Car Park. Pottery waste and kiln furniture was collected from the same place as site 8, but from bulk earthmoving over most of the surface of the car park. The fragments collected include industrial slipwares, although these are of a later date than those unearthed at site 6, having been produced c.1840's to 1850's.

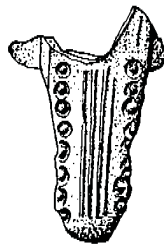
This appears to be made-ground with the layer of pot-waste resting on natural clay approximately 3.6m below ground level. This area contained a brick field in the mid 19th century, which can be seen on the 1856 Ordnance Survey map, so the pot-waste may have been deposited to fill the areas that had been dug out.

Site 10. Ground underneath the Alhambra Cinema. Some pottery and kiln waste was unearthed from the ground make-up beneath the now demolished cinema. The pottery is very similar to that found in Cooke Street and dates from the mid 19th century. The pottery, which includes transfer-printed wares and bone-china fragments, is not abundant in the earth, being scattered thinly in the ground.



9mm

25mm



17mm

Figure 16. Roman fibula.

8. What is Happening Next....

The interim reports to follow will not repeat much of the information contained in this volume, for example the sections on the archaeological and historical background and the urban area discrimination, as well as many maps and plans. The reports will consist of up-dates on the archaeological involvement in the project and assessments of any information uncovered in the intervening time. Up-dates are also being printed in the Northern Ceramic Society Newsletters every few months to gain feedback from specialists and enthusiasts in the field of Post-medieval ceramics. Interim reports will be produced on a fairly regular basis, probably every two to three months, depending on the developing nature of the project and what is unearthed.

At the end of the project a final report will be produced synthesising the information gained during the entire archaeological involvement in the road scheme. This will involve post-excavation analysis of the finds and data, and the production of plans, illustrations and photographs of the archaeological site. Prior to this synthesis, when the bulk earthworks have ceased, there will be an interim phase when the potential for analysis of the site will be assessed. This will involve a preliminary study of the finds, for example pottery, metal and stone, before further detailed analysis by specialists. This process will ensure that the most suitable format for the final report is established. The final report will be supported by finds illustrations, plans and photographs. Archaeology is a continuous process starting with the project design and ending with publication. Appendix Two shows a stylised version of this process.

This is the first report from the second stage of the process, and it has not only disseminated the information gained so far, the scope of the work has been put into context. Phase 1 has been tested against phase 2 and shows that the work so far to be working satisfactorily. The results to date indicate that the archaeological involvement in the A50 project is on course and that it will be possible to proceed satisfactorily to stages 3 -5.

9. Acknowledgements.

Valuable co-operation to set up this project has been provided by D.W. Bass and P.N. Stanton of the Department of Transport, and David Wilson of Staffordshire Engineering Consultants.

Valuable assistance and co-operation has been given during this project by John Glaister, Andy Mason and the rest of the Resident Engineers staff at the A50 site. Special thanks to the materials laboratory staff for all their help, and for assistance with the transportation of heavy bags of pottery from the site.

Great encouragement and assistance has been provided by the City Museum's Archaeology Department, Bill Klemperer, David Barker, Deb Ford, Rob Barnett and the department's volunteers. Chris Welch, Jonathan Rickard, Don Steward and Rodney Hampson have been extremely helpful with their advice on specific aspects of the site and its finds.

**POTTERIES
Tonight**

May asks transplant patients to service

PACKMOOR: Kidney transplant patients are invited to a special thanksgiving service at St Patrick's Roman Catholic Church, Bull Lane. The event was organised by May Barnes, aged 64, of Tunstall who had a successful transplant 17 weeks ago and wanted to celebrate her new lease of life with others. The service starts at 7pm tomorrow. Next week is National Transplant Week.

Trolley quick dash

LONGTON: Shopper Keith Rushton, of Dresden, won a two minute trolley dash at the Gateway supermarket in Trentham Road, Longton - the second of six prizes in a prize draw which runs until July 23.

Arsonist wrecks shed

LONGPORT: Arsonists sparked a blaze which completely destroyed an allotment shed on allotment land off Scott Lidgett Road. A member of the public called Burslem firefighters who extinguished the fire. A large number of gardening tools were ruined.

Sweet tooth robbers

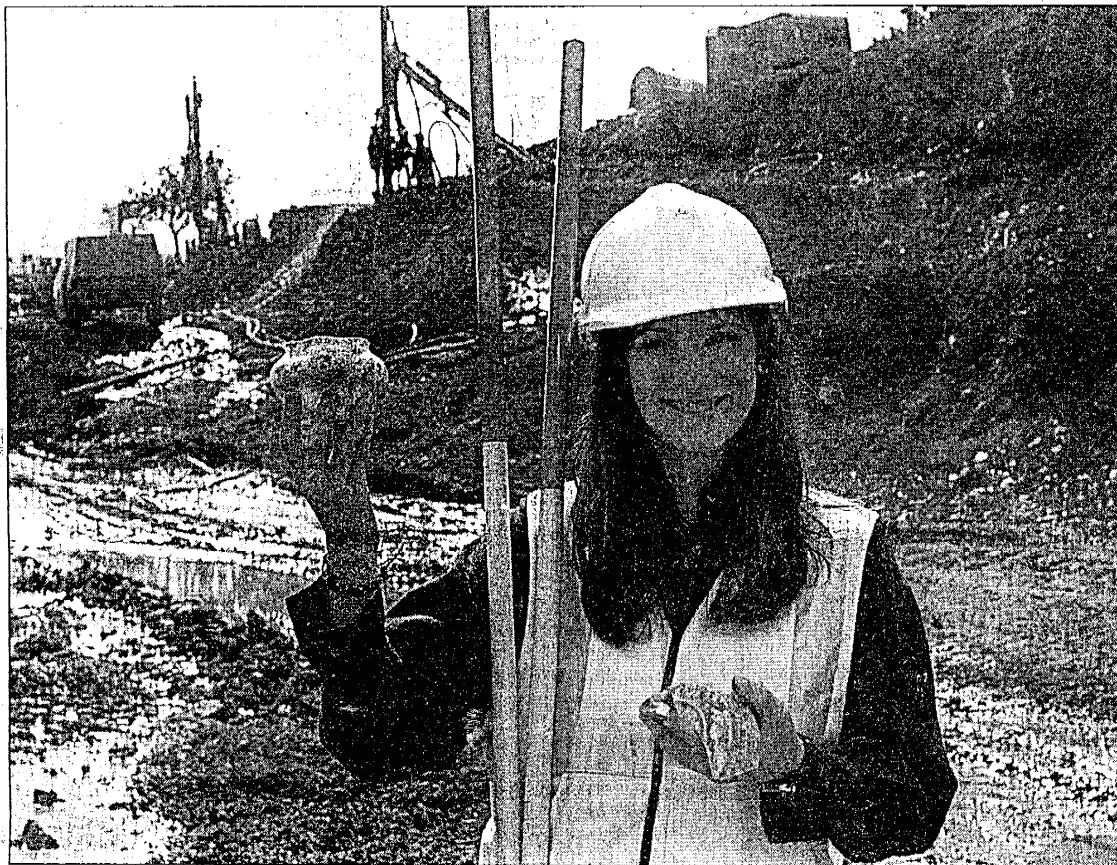
MIDDLEPORT: Thieves broke into the Middleport Youth and Community Centre in Woolrich Street by breaking a first floor window and stole £25 of assorted confectionery.

Steals on wheels

FEGG HAYES: Raiders took a wooden globe drinks trolley valued at £150 from a home in East Terrace while the householder was out for two hours.

**CITY NEWS DESK
(0782 289800)**

Archaeologist Kate joins the roadbuilders to try to unearth North Staffordshire's industrial history



Digging up clues to our pottery past

ARCHAEOLOGIST Kate Sheale is hoping to crack some of the pottery industry's hidden secrets.

She aims to plug gaps in historical knowledge in her new role - consultant archaeologist on the A50 link road project in North Staffordshire.

Experts believe excavation will unlock a store of new information on the history of pottery manufacture in North Staffordshire.

And remains of a Roman settlement may also be discovered as the work near the A50 Uttoxeter Road - a former Roman highway - progresses.

Kate said: "We know quite a lot about the history of the pottery industry in the 19th century but there are gaps in knowledge in the 18th.

"Hopefully we will come across structures of 18th century factories and waste tips which should tell us more about the pottery industry back then. It should be very interesting."

Kate, 25, a city council employee, added: "We also hope to find evidence of a Roman settlement along the A50 which used to be a Roman road but we have to be realistic - we may find nothing."

Kate will be working with Bill Klempferer, field archaeologist for the city,

and site engineer John Glaister.

If artefacts or structures of interest are found they will consult and work may be held up.

Of particular interest along the A50 route is the Foley Road to Alhambra junction section where the deep cutting is expected to unearth the 18th and 19th century factory waste.

The section from Alhambra junction to Meir follows the length of the A50 - the former Roman road which leads to Chester.

Kate's work is funded with £40,000 from the Department of Transport. The road is due for completion in October 1996.

**Story by
RICHARD MATHER
Picture by
JON BARTHOLOMEW**

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Driving rain leads to danger - claim

A LONG dry Summer spell could spell potentially fatal trouble for Staffordshire motorists as a leading safety expert has warned.

Councillor Denver Tolley, chairman of Staffordshire County Council's Road Safety Subcommittee fears sudden heavy rain could lead to a spate of accidents in the area.

He admitted: "I despair of hearing a weather forecast stalling that rain is on the way."

"What most drivers don't realise is that during the long, warm spell, the road surface becomes contaminated with a number of deposits such as dust, oil and rubber. The first rainfall will turn the surface into a virtual skid pan, and unless drivers adjust accordingly disaster will be inevitable."

Summer fun time

A LONG hot month of Summer fun has been planned for the children of Stoke-on-Trent.

The city council's Community Recreation department has organised over forty playschemes which will operate throughout the city and began on Monday.

Kate digs in for the past...

ARCHAEOLOGIST, Kate Sheale, hopes she's well on the road to changing the shape of North Staffordshire's history.

Because for the next 18 months she will be following the diggers that are pushing the new A50 through southern Stoke-on-Trent and seeing if they turn up any hidden secrets about our past.

"It is really exciting because it is such a big project, and we really don't have a clue what will turn up," said Kate (25) who was recently awarded an MA by Leicester University.

"A dream come true would be if we were to discover the remains of a major Roman settlement or a large pottery works that we had no previous records of.

"I honestly don't think there is much chance of that happening, although there have been Roman artefacts found in the Lightwood and Normacot areas."

But Kate's work isn't all about following in the wake of giant earth movers with a trowel grasped firmly between her fingers.

"At the moment I'm spending quite

report by **Richard Caddy** a lot of time in the archives at the City Museum in Hanley," she explained.

"I'm going through old title maps, Ordnance Survey maps, anything I can find that will indicate what used to stand on ground the road is going through."

"We do have a lot of documentary evidence of what was there throughout the last century, but before that it is very sketchy."

"Part of the trouble with the early pottery industry is that small factories would spring up, run for a few years, change hands and disappear."

"Any old pottery tips the road uncovers could help us to better document the early years of the industry."

Kate, who is a native of Tubbury, will be working in close co-operation with the city's field archaeologist, Bill Klemperer, who could even apply to get work on the road suspended if anything of major importance is uncovered.

He said: "Kate's work is being funded by a grant from the Department of Transport and Staffordshire Highways Consultants. We felt it was important work, put forward our case, and we are very grateful that they agreed."



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LARGE swaths of North Staffordshire and South Cheshire were not permanently in the grip of roadworks this year. It just felt like it. GREG STRINGER looks back at the...

Year of the roadworks



A50

Biggest and most baffling

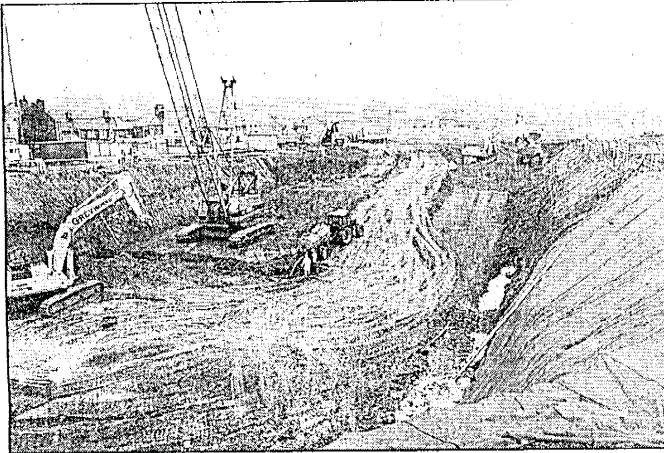
UNWARY residents in a quiet backstreet are convinced a superpower invasion is under way in October as they are roused from their slumbers by 40-tonne lorries thundering past their front doors.

Columns of HGVs turn Ludwall Street into something resembling a supply line to the Western Front as they are diverted from the A535 Meir road. Householders are told it's something to do with the multi-million pound A50 road development, the biggest but also the most baffling road scheme ever to be visited on North Staffordshire.

The most telling thing about major roadworks is that while they have a serious purpose, they spotlight the quirky byways of everyday life.

The highlights of the A50 works this year include:

- The growing status of unassuming accountant Clive Hulse as the real hero of the roadworks. Dubbed The Highwayman by harassed Department of Transport officials, Mr



Chaos comes to town... the A50 upgrading work at Heron Cross.

Hulse became a media star as the driving force behind a protest group opposed to one of the road improvement alternatives.

- Traders' leader Ellis Bevan compares Longton with Beirut and invites in UN peace-keeping forces.

- Schoolgirls Katie Semeniuk and Lydia Quinn celebrate a dubious triumph in a competition organised by wags at the Highways Agency - a trip round a two and a half kilometre stretch of the roadworks in a Range Rover.

- Residents in the Astro Grove area of

Longton complain of constant headaches caused by construction work.

- It emerges in June that most homes along the route of the A50 link are built on pottery waste prone to slippage.

- City council employee Kate Sheate is appointed consultant archaeologist on the road project as experts predict excavations will unearth new clues to the pottery industry in the 18th and 19th centuries. Kate says: "It should be very interesting." Residents are marginally less enthusiastic.

BASFORD BANK

Everyone driven to distraction

RESIDENTS in Basford Bank draw back their curtains one fateful morning in February to find teams of workmen armed with pneumatic drills are trying to steal their road.

Around 40,000 motorists enjoy the joke every day as first Severn Trent, then British Gas set about tearing up the A53 and putting it back again. How we laughed!

The joke starts to wear thin for enraged traders who claim the permanent congestion and labyrinth of one-way routes is driving them to the brink of closure.

Bemused shopkeepers returning from trade fairs report that news of the roadworks has spread as far as Yorkshire. By the end of the summer scuffles break out on the A53 as coachloads of Japanese tourists vie for the best vantage point for pictures of the long-running farce.

Street parties

The carefully-nurtured Blitz spirit is sorely tested as British Gas reveal their part in the works will be extended by a month.

Newcastle Borough Council completes £400,000 resurfacing work in October to bring the misery to an end after eight months. The road is reopened and promptly closed again as locals gather for street parties reminiscent of VE Day.

Motorists start planning elaborate detours just to try out the smoothest, most car-friendly stretch of urban carriageway in Europe.

CREWE

MOTORISTS in Crewe are already learning to live with the mother and father of all roadworks when they realise they have been caught in a cunning pincer movement by highways officials in a dismal start to the year.

Month-long repair work to Weston Lane is announced in JANUARY. The route is an alternative to bottlenecks at Basford bridge on the A500 caused by upgrading work.

All this in addition to delays on Bradfield Road, at Sydney Bridge and on the A530 Nantwich road.

And all this on top of

It's a bridge too far for drivers and traders

the crippling and apparently interminable repair work on Nantwich Road outside Crewe railway station.

By MARCH, Crewe and Nantwich MP Gwyneth Dunwoody is demanding an explanation from Transport Secretary John MacGregor as to why traffic snarl-ups have been allowed to blight the town. She blames British Rail for "destabilising" the local

economy with a variety of bridge repair programmes.

The borough council scraps a toll bridge scheme in April. Drivers would have been asked to pay 20p to use the temporary bridge as a relief route, but problems over where to site the bridge mean the scheme is shelved.

SEPTEMBER: traders fear a Yuletide nightmare as shoppers abandon

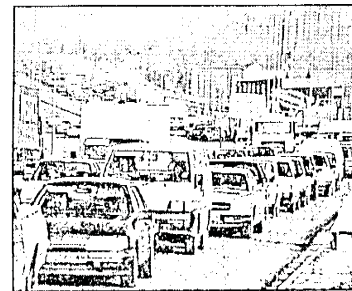
town centre stores because of the continuing station bridge repairs.

OCTOBER: businesses blame Railtrack for closing the bridge on three consecutive Saturdays and further damaging trade. Worse is to follow: a 300-tonne crane - drafted in to lift concrete beams - dominates the town's skyline for 48 hours at the end of the month. Traders claim

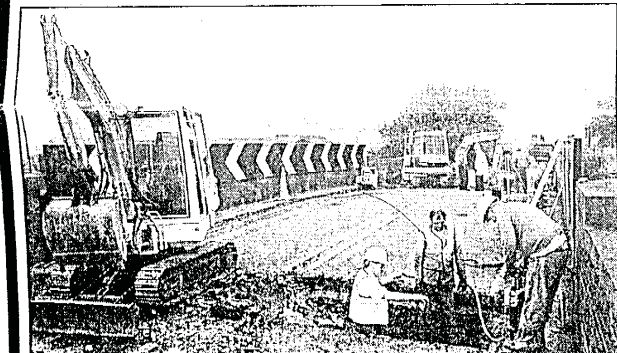
takings are down by up to 10 per cent.

NOVEMBER: Traders fear the sound of jingling Christmas cash registers may be silenced altogether when they learn Railtrack plans to close approaches to the railway station over the last weekend before the festive season. As businesses plan to step up a compensation bid, MP Gwyneth Dunwoody's pleas for cash aid are turned down by the Department of Transport.

DECEMBER: the borough council steps in with cash to fund advertising and promotion in an effort to cushion the affects of traffic chaos on Christmas takings.



Nose to tail... approaching Basford Bank



• An all too familiar sight at Basford Bridge, near Hough.

AND FINALLY...

Gridlock on Black Wednesday

STROKE-ON-TRENT threatens to become the city of eternal night when it is announced that workers are to descend on us in the New Year to lay television cable.

The multi-million pound scheme, announced in November, will involve ripping up large swathes of the city. County highways chairman Terry Dix says: "We are worried about the whole highways system in North Staffordshire."

November 16 1994 will go down in local history as Black Wednesday as gridlock finally grips the city. Drivers are trapped when all exits in the south of the city are blocked as roadworks continue simultaneously in Longton, Fenton and Trentham.

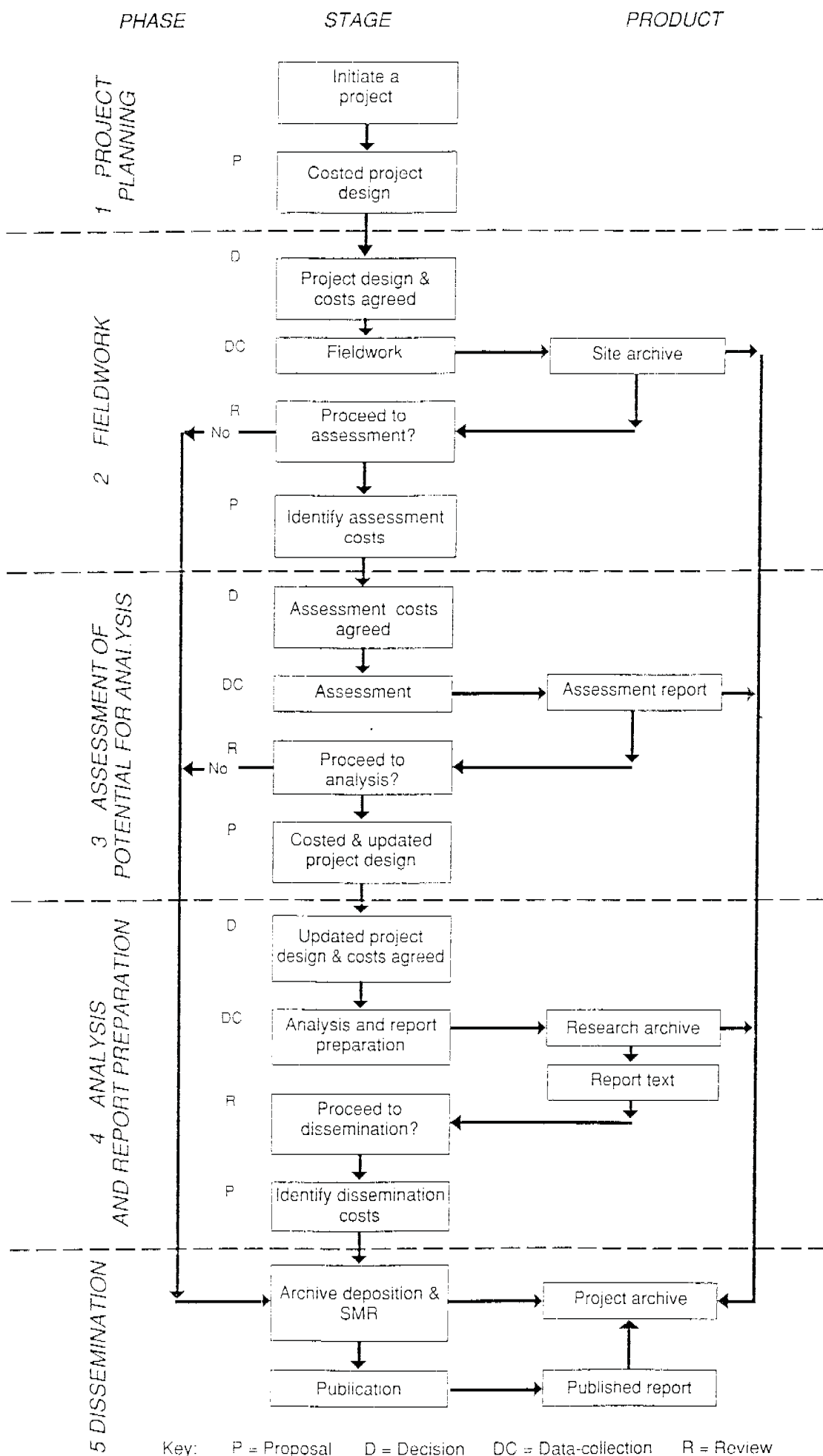
Roadworks in Trentham Road create traffic queues as far back as the Hanford roundabout on the A500. Highways officials predict the work will carry on for another two months.

Desperate diseases require desperate remedies...the city coun-

cil get radical with an ingenious plan to ease Hanley's chronic parking problems - cutting down on car parking spaces.

By the end of November highways officials are giving themselves another pat on the back for their second annual traffic-control ruse in a matter of days. Drivers keep breaking the temporary speed limit through roadworks on Trentham Road in Blurton.

The solution? Use a council van to crawl along the stretch of road at 10mph and keep motorists in line.



Key: P = Proposal D = Decision DC = Data-collection R = Review

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